Government Museum, Chennai

MUSEUM'S JOURNAL

(October 2001 - March 2002)

Published by

Dr. R. KANNAN, Ph.D., I.A.S.,

Commissioner of Museums,

Government Museum, Chennai-600 008.

May, 2002

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GOVERNMENT MUSEUM, CHENNAI

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National Art Gallery (Victoria Hall), 1906 AD.

Back Cover :
Museum Theatre, 1896 AD.

Authors of the articles are responsible for their views in their articles.

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Letter from the Commissioner. . . . .

I had written in my previous editorial that an International Seminar on Conservation of Stone Objects especially Limestone Objects" in collaboration with the Nehru Trust for Indian Collections at Victoria and Albert Museum, London at New Delhi and the Indian Association for the Study of Conservation was planned for December 2001 AD. This event is the first International Seminar in the history of this Museum and a Special Exhibition on "Conservation of Stone Objects was held from 18th to 21st December 2001. Dr. M. Thambidurai, Hon'ble Minister for Education, Government of Tamilnadu inaugurated this. The Valedictory Address was given by Dr. M. Baldev Raj, Director, Materials Management Group, Indira Gandhi Centre for Atomic Research, Kalpakkam. It was attended by Dr. D.A. Swallow, Director of the Indian Collections, Victoria and Albert Museum, London, Dr. Robert Knox, Keeper of the Indian Collections at British Museum, London and late Dr. Stephen Fowles, Conservation Scientist, Conservation Centre, National Museums and Galleries of Merseyside, Whitechapel, Liverpool, U.K. There was a big response from national and international conservators and museologists. Dr. V. Jeyaraj, Curator for Chemical Conservation and Research Laboratory of this Museum became the President of the Indian Association for the Study of Conservation of Cultural Property. The election of Dr. V. Jeyaraj has to be viewed as the *sumum bonum* of all the efforts put in by the staff of the Department of Archaeology and Museums including those from the districts.

In March 2002, a National Festival on Folk Arts to coincide with the 50th Anniversary of the Ford Foundation of India was held in collaboration with the National Folklore Support Centre, Chennai. The carved stone columns, which were received for safe custody and lying strewn in front of the old Connemara Public Library, were erected to form into a beautiful Open Air Theatre at which many of folk art events were held. Special exhibitions on photographs and musical instruments were held. Rare musical instruments from our collection and from private collections were on display. This event also attracted a lot of foreign tourists.

I was invited to become a Member of the Board of the Association of International Museums of History (AIMH) with its headquarters at Paris. This is the first time an Indian has been chosen for this association. The Hon'ble Minister for Education was kind enough to issue a press

release complimenting me and the Department of Museums for this achievement, since it is the first time in the 150 years of the existence of the Government Museum, Chennai that one of its personnel was chosen to be a member of the board of an international professional organisation of museums (AIMH), an affiliate of ICOM (International Council of Museums). I was selected as a Keynote Speaker at the 6th International Colloquium of this Association held at Lahti, Finland from 29th May to 2nd June 2002 on 'Museums, Scenography and Tourist Attractions'. I had sent a Power Point presentation with Veena music and my paper by e-mail in advance. However, I could not attend in person since I could not get permission. My presentation in the form of an article is placed in the Articles section with colour photographs.

We have spent Rs. 62 lakhs worth of schemes under Part II in the Department of Museums. The important items are:

(i) Rock Art Gallery with *son-et-lumiere* and dichroic halogen lighting activated by infra-red rays. This covers the pre-historic petroglyphs and petrographs. It also covers the historic period of cave paintings and sculptures with reference to Tamilnadu sites. The scenography of the gallery brings remote sites into Chennai city providing easy access to the visitors.

(ii) By in-house design, we have created hi-tech showcases with dichroic halogen lighting made of frameless float glass. It has an exhaust fan in the upper compartment and silica gel in the lower compartment to control moisture levels. These are on par with international standards and many components like hinges, locks, fans, the dichroic halogen lamps are imported. These showcases have been placed in the Foreign Animals Gallery of the Zoology Section and the first floor of the Bronze Gallery housing Jain and Buddhist bronzes in the Government Museum, Chennai. These showcases have also been provided to the Government Museum, Madurai and the site Museum of the State Department of Archaeology at Gangaikondacholapuram, Perambalur District. This upgradation of the technology even in the site museum of the Archaeology Department is a direct benefit of the integration of the Department of Museums and Archaeology under one administrative head.

(iii) A diorama showcase displaying the Malayan Tapir in the Foreign Animals Gallery of the Zoology Section of the Government Museum, Chennai also uses the same hi-tech lighting and mechanism. In addition, the background scene is not painted as usual, but is a computerised vinyl print out of the photographs of the natural habitat of the Tapir. The mega size diorama showcase makes it realistic. An article has been written on how we went about this is placed in the article section of this Journal.

(iv) The Costume Dolls and Civilisation Galleries of the Children's Museum have also been modernised using some of the technology employed in the hi-tech showcases. They now have yellow lighting, which makes for better viewing.

(v) Brochures designed and printed to international standards have been brought out on Rock Art, Conservation, Children's Museum, Paintings Section along with a General brochure on the museum as a whole.

(vi) Rs. 11 lakhs worth schemes under Part II of the budget for 2001-2002 have been completed in the Archaeology Department. They include new hi-technology like purchase of power tools for the Conservation Engineering Section, upgradation of their drawing section, purchase of computer and hi-tech showcases for their site museums. The sign boards at the excavation site at Maligaimedu, the ancient capital of the imperial Cholas, and the Site Museum at Gangaikondachola puram have been upgraded to Archaeological Survey of India standards by having them painted on enamel.

The experience was narrated in a lecture 'Managing Change in the Museum Profession' presented at the Annual Conference of the Museums Association of India at Bhopal on 2-3-2002. It is presented as an article in this issue of the Journal.

Some of the Amaravati sculptures embedded in to the walls especially those below hip level have deteriorated due to absorption of moisture due to rising water levels. Two sculptures have already been removed as a Pilot Project. The Hon'ble Minister for Education inaugurated the project for removing them from the walls, conserving them and redisplaying them in modern showcases. Several such showcases have been designed as shall be seen below. Funds for the

project and a Bosch Power Tool for the work have been made available. The Curator for Archaeology. Chemical Conservation and the engineering wing of the State Archaeology Department have to work together to complete the work.

The website of the Museum have received widespread appreciation from foreign scholars as the best site among the museums in India.

In the issue of this Journal - April to September 2000, we have brought out how we have come across a huge Buddha statue and Buddhist artefacts at Pettaivaithalaipettai. Trichy District. After two years of persistent effort these have been shifted to the Government Museum, Trichy, where they have been kept for viewing.

When I visited Madurai in September, 1999 I saw two life- size Tanjore panel paintings, which were in need of conservation. I offered to use the services of our Conservation section for restoring these. In April, 2002, I was given the order to restore them by the Special Commissioner of Hindu Religious and Charitable Endowments Department, Thiru T.R.Srinivasan I.A.S. The two paintings which have as their theme the Divine Wedding of Goddess Meenakshi and the other her divine coronation were restored by a team headed by the Curator, Conservation Section of this museum and consisted of Chemists of the State Archaeology Department, art teachers and students trained in Tanjore panel paintings. This extension work done within a short period was widely acclaimed in Madurai as a model for undertaking other similar work for restoring mural paintings in caves, temples etc. A book on Conservation of Tanjore Panel Paintings by Dr.V.Jeyaraj, in Tamil has been released on the occasion.

Rs. 10 lakhs worth of priceless old publications of the Museum Department, like the Pudukkottai State Inscription series etc. have been republished. A highlight of this year's republication is the retention of the original title page so that scholars can have a feel of the old days. New books like the one cataloguing Jain images in the District and Site Museums in Tamil Nadu along with the images found in monuments and even on roadsides have been published this year as part of the schemes amounting to Rs. 62 lakhs under Part II of the budget.

There was a seminar in Pudukkottai and the republished books of the Pudukkottai Inscription series of books originally published in 1929 AD etc were released by the erstwhile Maharani of the Princely State at the seminar on Epigraphy held at the Government Museum,

Pudukkottai. A practical session for recording of inscriptions by doing away with the old method of recording estampages on paper was demonstrated. This was done at the Gokarneshwar Temple at Pudukottai. The new method consists of spreading a solution on the inscriptions, which highlights the letters of the inscription on 6X digital camera, photography of the inscriptions, cleaning the rock by washing away the solution and downloading the images on a computer. The downloaded images show the original letters of the inscriptions. This gets rid off the pitfalls in interpretation of the letters of the old scripts like Brahmi by one scholar as in the old method. Letters can be interpreted by scholars, who are now free to see the original letters of the old script. These deciphered inscriptions will be sold as Compact Discs in the first phase without editing and in the 2nd phase after editing by converting into modern script with editorial notes.

Certain collection sections in the Government Museum, Chennai have Accession Registers which are so soiled as not to be visible or in cases like Archaeology rely on printed catalogues in certain cases. This year it is proposed to update the Accession Register with the help of Nataraj Software of NIC so that accurate particulars are available in electronic form as well as in printed form as hard copies on paper.

In this Museum, photos have been taken 1850 AD onwards. They have not been indexed so far. Their availability is decentralised with the Curators of the collection sections. It is essential if some of these are not to go missing that they are indexed and preserved both as Compact Discs (CDs) and printouts. It is proposed to have a project to do this in the current year. This will also give an interesting insight into how the objects looked around 1850 AD and how much they have deteriorated or how they have not deteriorated in the past 150 years. This will be a great lesson for conservators.

We are exploring new directions in conservation of monuments in the Department of Archaeology. A group of Danish volunteers calling themselves Friends of Tranquebar Society have taken up the conservation of four rooms at Dansborg Fort at Tranquebar, Nagapattinam district. They have even a website www.trankebar.net. The work is being carried out under the technical guidance and the supervision of State Department of Archaeology. Mr. Chella Pillai, an Ex-ASI Conservator who in turn gets technical guidance from Thiru K.T. Narasimhan, Superintending Archaeologist, Archaeological Survey of India, Chennai Circle has undertaken the work. The group

of Danish volunteers were recommended by the Director, National Museum of Denmark, the Danish Embassy of Delhi and our State Government at Fort St. George. The effort at Tranquebar has received good coverage in the Danish National Daily "**Jyllandsposten**".

The Vittalapuram Temple near Thirukazhukundram, Chingelput district, which is badly in need of restoration is also proposed to be conserved with public donations based on the Tranquebar model.

The annual meeting of Epigraphy and Archaeology convened by the Commissioner identified monuments like Tirumalai Naicker Mahal, Madurai for conservation, which includes the buildings of the Government Museum, Chennai for a budget of Rs. 5.70 crores this year. This budget provides for re-display of artifacts after conservation of the buildings and electronic surveillance for security in the case of the Government Museum, Chennai.

New techniques like use of computer, internet, digital record of inscriptions, the role of archaeologists in conservation etc., were discussed in these meetings and the plan of action for the year 2001-2002 was formulated. Two excavations, one at Mangudi in Tirunelveli and another at Perur in Coimbatore are planned for this year. Use of computers to record photos and findings will be a highlight of this year's effort. A very important task taken up this year has been the recording of the 126 – 78 RPM old gramophone records recorded in 1922 AD *of the Languages and Dialects of the Madras Presidency* as Sample Records by the Gramophone Company of India (HMV), Calcutta. We got a very rare old player to decode the records through *the help of the Station Director, All India Radio, Mr.B.R.Kumar.* The studio eliminated the noise 'wow' and 'flutter', which haracterizes these old type records and digitally recorded the sounds on CDs. These gramophone records the spoken form of the Languages and Dialects of the Madras Presidency till 1922. To correlate with this, we have published a book 'Gramophone Records of the Languages and Dialects of the Madras Presidency – Text of Passages' of these records. Therefore any anthropologist who buys this book with CDs can have complete access to the data collected up to 1922 AD of the oral traditions of South India. This work was done by the Curator for the Zoology Section in a record time of 5 days. The CDs are available for sale along with the book. They are a collector's dream come true.

The website of this museum is being updated regularly.

I am sure that with the massive efforts being taken for the conservation and restoration and redisplay of the galleries of this Museum and the important monuments under the control of the State Department of Archaeology, all scholars and lovers of heritage and art throughout the world would feel immensely happy. The Department of Archaeology and Museums with the help of the latest technology tries its best to help in preservation and development of ancient and modern knowledge for the benefit of humanity.

I am sure that with the hard work put in by the Curators and the staff the Department of Archaeology and Museums will break new ground based on the vision that we have laid out as the road map this year. Visions, of course, keep changing but the core viz., preservation and presentation of knowledge especially ancient knowledge so that visitors are attracted will remain.

Chennai – 600 008.
31-5-2002

(Dr. R.Kannan, Ph.D..I.A.S.)

A Tribute to Dr. P. Stephen Fowles

Dr. P. Stephen Fowles is one of the Conservation Physicists of the Conservation Centre of the National Museums and Galleries, Merseyside, White Chapel, Liverpool, L1 6HZ, UK.

He was engaged in conservation of art and antiquities using physical means especially laser techniques. He had published many research papers. He had involved in many projects associated with conservation of archaeological materials and research based on conservation of antiquities and monuments.

He participated in the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects held at Government Museum, Chennai from 18th to 21st December 2001 under the auspices of the Nehru Trust for the Indian Collections at the Victoria and Albert Museum at New Delhi. He presented a paper on Lasers on Cultural Heritage and it was well appreciated. He participated in the post - seminar tour to Kancheepuram and Mahabalipuram. Unfortunately, he is no more but his contributions are with us. We have lost a young conservator and his loss has created a global vacuum in the field of Conservation of Cultural Heritage.

- Dr. V. Jeyaraj

MUSEUM NEWS

DEPARTMENT OF MUSEUMS - AN INTRODUCTION

Government Museum, Chennai was established in the year 1851, with 1100 geological objects. This Museum has now developed into a multidisciplinary museum with various sections like Archaeology, Numismatics, Anthropology, Botany, Zoology, Geology, Chemical Conservation and Children's Museum. It also includes Education, Design and Display sections and Chemical Conservation and Research Laboratory as supporting branches. In order to preserve art, cultural and natural heritage and impart museum education throughout the State of Tamil Nadu, 20 district museums have been established in districts. Collection, registration, preservation of objects, display, research and publication are the major objectives of these museums.

Government Museum, Chennai functions from 9.30 a.m to 5.00 p.m on all working days except Fridays and National Holidays.

This Museum's Journal includes a number of articles and information about the activities of the museums under the Department of Museums from October 2001 to March 2002.

The district museums are functioning on all days from 9.30 am to 5.00 pm except Fridays, second Saturdays and National Holidays at the following places:

1. Government Museum, Thirugokarnam, Pudukkottai-622 002. Ph: 04322-22247
2. Government Museum, Navalar Salai, Salem-636 001
3. Government Museum, Gandhi Museum Campus, Madurai-625 020. Ph: 0452-650298
4. Government Museum, Rani Mangammal Hall, Tiruchirapalli- 620 002. Ph: 0431- 708809

5. Government Museum, Municipal Office Complex, Erode-638 001.

6. Government Museum, Fort, Vellore-632 004

7. Government Museum, Government Hospital Road, Cuddalore-607 001

8. Government Museum, Bali House, 70, Mysore Road, Udhagamandalam-643 001

9. Government Museum, Kattur, Coimbatore-641 009

10. Government Museum, Gandhi Memorial Road, Kanyakumari-622 702

11. Government Museum, St. Mark's Road, Samathanapuram, Palayamkottai, Tirunelveli-627 002

12. Government Museum, Near Apsara Theatre, Krishanagiri-635 001

13. Government Museum, Foot of the Hill, Palani-624 601

14. Government Museum, Weekly Market Road, Sivagangai-630 561

15. Government Museum, A/M Thiagarajaswami Temple, Tiruvarur-610 002.

16. Government Museum, 35, First Line Beach, Nagapattinam-611 001

17. Government Museum, 117, Munusamy Avenue, Kanchipuram-636 501

18. Government Museum, Asanammal Buildings, Head Post Office Road, Ramanathapuram-623 501

19. Government Museum, Municipal Commercial Complex, Karur-639 001

20. Government Museum, T.T Road, Virudhunagar-626001.

SPECIAL FEATURES

Honorable Minister for Education, Dr.M. Thanbidurai inaugurated the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects on 18th Dec. 2001. He released the Journal of the Museum, the Abstracts Book of the Seminar and Pamphlet on the Exhibition on Conservation of Stone Objects. The Seminar was conducted in collaboration with the Nehru Trust for Indian Collections at the Victoria and Albert Museum, and the Indian Association for the Study of Conservation of Cultural Property, New Delhi.

Dr. Choodamani Nandagopal, Bangalore delivered International Women's Association (IWA) Endowment Lecture on 22.1.2002.

Seventh Lawn Art Training was inaugurated by Tmt. Geetha Elangovan, Chairman, Vellore Municipal Council 25.11.2001. Thiru. N. T. Shanmugam, M. P. distributed certificates to 115 trainees of Seventh Lawn Art Training on 17.2.2002. On the same day, Thiru. K. Lakshminarayanan, Assistant Director of Museums inaugurated Photographic Exhibition.

Part II Schemes worth of Rs.62 lakhs for the schemes such as establishment of Rock and Cave Art Gallery, refurbishment of Costume Dolls and Civilisation Gallery in Children's Museum, setting up of Storage of Bronze Antiquities, reprinting of old publications and publication of new books etc. were sanctioned by the Government and works were completed.

IMPORTANT ADDITIONS

As Treasure-trove Finds

In Chennai:

2 gold chains (23.210 grams) and a gold ingot of 4.5 cm length (25.190 grams) from Pandavarmangalam village, Koilpatti Taluk, Tuticorin District; one brass container without lid and a gold wire (3 grams) from Thinnanur village, Madurantakam taluk, Kanchipuram district; 9 small silver balls, 2 broken anklets, 2 small silver rings (Metti), a Small nanal kuzhal, a tali, 4 small beads and 60 small broken bones - 60 Nos. from Perumanchery village, Cheyyar taluk, Kanchipuram district; broken pieces of container (86 grams), bits of gold: 4.854 grams, pieces of gold (1.741 grams) and gold piece (3.00 grams) from Devastanapudaiyur village, Virutachalam taluk, Cuddalore district; a silver ingot (10 grams) and a gold ingot (10 grams) from Arumbarampattu village, Sankarapurm taluk, Villupuram district were received as treasure-trove objects and added to the collection of Anthropology section.

43 Indo British old star pagoda gold coins, an ingot (gold) and a copper container from Uthukkottai taluk, Thiruvellur district; 2 Indo British, Victoria silver coins from Naripalli village, Harur Taluk, Dharmapuri district; 84 Raja Raja Chola copper coins, from Tirumangalam village, Lalkudi taluk, Trichi district were received as treasure-trove objects and added to the collection of Numismatic section.

In Districts:

Salem

A cannon (length 240 cm, diameter 45 cm, weight.1880 Kgs.) received from Tahsildar, Tiruchengodu as treasure-trove object and added to the collection.

Madurai

Durga (Stone sculpture) from Vaigai riverbed, Madurai (about 13th to 14th Century AD Height: 45 cm); Surya (Bronze) from Thenur, Madurai North (about 16th to 17th Century AD Height: 12 cm); broken skull of an elephant (about 1000 years old) from Kandamanur, Andipatti taluk, Theni district were received and added to the collection.

Tiruchirapalli

Two sculptures of Brahma, a sculpture of Devi and a fragment of a Naga sculpture were unearthed near a drainage canal, in North Andal street, while the City Corporation workers expanded the canal. These sculptures were later brought to the museum by the orders of the District Collector and added to the collection.

Erode

A burial urn from Bethampalayam, Perundurai taluk, Erode district was received as treasure-trove object and added to the collection.

Vellore

One Bhairava stone sculpture as treasure-trove from Karsamangalam village, Katpadi taluk, Vellore district.

Cuddalore

A Lakshmi Narayana bronze image (Height.18cm, Weight. 2.390 Kg belonging to17th Century AD) from Uppu vellore village; an Anandhathandava Nataraja bronze image (Height 113 cm, Weight. 92 Kg belongs to 12th Century AD) from Chidambaram Tashildar; a Peedam (7cm x 14cm, Weight. 2.360 kg) and a Thiruvasi (Height. 59 cm, Weight. 4.500 Kg) from Rasakuppam, Samathuvapuram, Cuddalore taluk were received as treasure-trove objects and added to the collection.

Kanchipuram

A bronze idol of Sri Lakshmi Narasimha (Height.56 cm, weight 70 Kg) found near Kottivakkam in Tambaram taluk was received as treasure-trove object from Tambaram Tahsildar on 28.3.2002 and added to the collection.

Kanyakumari

Stone sculptures of Sati stone (Height. 90 cm) was received as treasure-trove object from Puliyoorkurichi village, Kalkulam, Kanyakumari district.

Tiruvarur

Bronze idols of Appar (18th Century AD), a piece of hand (16th Century AD), Rishi (16th Century AD, Weight.30.5 Kg.), a Ardhanarisvara (about 25 years, Weight.2.700 kg.) and a Sivalingam (about Weight.1.250 kg.) from Tahsildar, Mannargudi, Thiruvarur district; a Nataraja (Weight.189 kg, Height.120 cm), a Devi (Weight.120 kg Height.115 cm), Amman (Weight.35 kg, Height.82 cm), Manikkavashaka (Weight.35 kg, Height.82 cm), Thirugnanasambandha (Weight.34 kg, Height.56.5 cm and 8 metal objects (All bronzes and metal objects belonging to 12th Century AD) from Tahsildar, Kumbakonam, Thanjavur district were received as treasure-trove objects and added to the collection.

Virudhunagar

A copper ring with a bull figured seal was received from Tahsildar, Rajapalayam taluk as treasure-trove object and added to the collection.

Through Field Collections and Gifts

In Chennai:

Long-legged Buzzard (Buteo rufinus) collected from the Museum campus (Zoology Section); about fifty vascular plants were collected and preserved dry (Botany Section); Under Part II scheme of 2001-2002 five new computers and printers have been purchased and distributed to the following District Museums Salem, Madurai, Trichy, Cuddalore and Erode under Part II scheme of 2001-2002 new Digital Camera and a new Digital Video Camera have been purchased for the Photography Section

(Design and Display Section); The book entitled, "Manual of Curatorship" procured from the British Council, Chennai during December 2001 and other books transferred from the Commissioner of Museums during January 2002 added to the total stock of library book (Education Section); Sri Lanka's one currency note Rs.200/- from the Superintendent of the Central Jail, Madurai was received as unclaimed property and 30 First Day covers, 30 information sheets and 35 mints stamps from the Post Master, Anna Road Post Office, Chennai-2 as gift (Numismatic Section) ~~were received and~~ added to the collection.

In Districts:

Madurai

A Koel from the museum campus was collected and stuffed as field collection and 29 First Day Covers and 28 Brochures from the Philatelic Bureau, Madurai, were received as gift and added to the collection.

Thiruchirapalli

Thiru K.V.Jeevanandham of Srirangam found two stone sculptures of Devi, when he got down into the river Cauvery for taking a bath and brought them to the museum. Currency notes of Sri Lanka one each in the denominations of Rs.100/-, Rs.50/- and Rs.20/- and two in the denomination of Rs.10/- from Thiru K.Murugesan of Vannarapettai in Puthur of Tiruchirapalli, samples of rocks and minerals from Thiru.M.Sundararaj of Thillainagar; a broken piece of a fossil-ammonite from Thiru. M.Nazar of Koonibazaar of Bheemanagar; 34 First-day covers, mint stamps and folders from the Senior Post-master of Tiruchirapalli Head Post Office were received and added to the collection.

Vellore

36 First-day covers of Indian Postal Department as gift and a Parsvanatha metal image of modern cast as unclaimed property from Sengalikuppam village, Vaniyambadi taluk, were received and added to the collection.

Erode

Herbaria of 10 medicinal plants collected as field collection and 12 First-day covers, 12 brochures and 20 stamps received as

gift from Senior Post Master, Coimbatore were added to the collection.

Udhagamandalam

3 Chola coins, 2 British coins, a 25 paise nickel coin (imprinted Raja head in the obverse and tiger on the reverse) from N. Soundrapandian as gift and 5 books through purchase were added to the museum collection

Coimbatore

Herbaria of 20 medicinal plants were collected as field collection and added to the collection: 15 First day covers 15 brochures and 40 stamps were received as gift from Senior Post Master, Coimbatore and added to the collection

Kanyakumari

Small size chameleon from seashore area, two paintings of Raja Ravi Varma viz Milk Maid, 37x44.1 cm, Sakunthala 208x135 cm from Chitra Art Gallery, Trivandrum; Photographs of Travancore Kings from Trivandrum collected as gift and 6 First day covers; mint stamps and folders from Senior Post Master, Madurai; 5 Travancore coins (copy) from Thiru. Karthikeyan, Nagercoil were received as gift were added to the collection.

Krishnagiri

A copper plate (Chola period) with 27.5 cm height and breadth 18.5 cm has been received and added to the collection of this museum. The flowers of Aloevera (an important medicinal herb) have been colour preserved (wet) and added to the Botanical collection.

Palani

One bundle of palm-leaf manuscripts and a stylus from Mr.R.M.Veerappan, Palani; 57 First-day covers and brochures from Indian Postal Department; two numbers of hundred years old clay pots and a tiny metal jar from Siddha doctor, Mrs. K.M.Rajam, Palani and 3 paintings from Vela Arts, Palani were received as gift and added to the collection.

Tiruvarur

Paper currencies of two rupees of Bangaladesh and twenty thousand rupees of Indonesia were received as gift from R.Packirisamy, Tiruvarur and added to the collection.

Sivagangai

Bronze icons of Vishnu, Sri Devi and Bhu Devi of Adhiyur, Ramanathapuram district; Amman icon of Paramakudi; bronze Durgai Amman icon, Kumkum bowl, broken bronze pieces and fire bowl of Panichakudi, Thiruvadanai taluk, Ramanathapuram district were brought from Government Museum, Ramanathapuram for security measures. A Sri Lanka 10 rupee paper currency and 3 foreign coins from Ms. G.Sudha, Sivagangai: Gramaphone box with speaker (75 years old) from V.Ilamparithi, Jameendhar Patti, Thiruppattur taluk; 2 foreign coins from M.S. Ibrahim, Nehru Bazaar, Sivagangai; a 2 rupee paper currency of Malaysia from N. Ramesh, Duraiyur post, Tiruchirapalli district; 14 foreign coins and 7 Malaysian currencies from Lion.S.Vengat Raman, Natham Lions Club; 16 Indian coins and 7 old Indian coins (With Leaders' impressions) from Mr. Gurumoorthy and T.T.K. Rajendran, Natham Lions Club, Natham, Dindigul district; 29 First-day covers, 28 brochures from Philatelic Bureau, Madurai; a foreign coin from P. Mangala Nathan, Kirampuli, Sivagangai district; a paper currency of Malaysia from T.Abdul Hakim, Sivagangai; a foreign coin from P.Madhusudhanan, Sivagangai were received as gift and added to the collection.

Kanchipuram

Fifteen foreign stamps and three Canadian coins were received as gift from Selvi Kavitha of Kanchipuram and added to the collection.

Virudhunagar

Two megalithic period black and red ware potteries of Seebam (Dharmapuri district) from Mr. R. Balachandran, Thirudhangal; 30 foreign coins from Mr.K.C. Jayachandran, Virudhunagar; 14 Indian coins from Smt. N. Kamaladevi, Virudhunagar were received as gift and added to the collection.

VIP Visits

In Chennai:

The Honorable Minister for Culture, Mr. Makvana, Government of Gujarat was taken round the galleries and the Chemical Conservation and Research Laboratory of the Museum on 5.1.2002.

Honorable Minister for Education, Dr. M. Thambidurai visited the museum and discussed various issues of activities in the Museum on 7.1 2002.

Yang Linhai, Chinese Cultural Chancellor from New Delhi was taken round the Museum galleries on 31.1.2002.

The Director of the National Rail Museum, Thiru Rajesh Agrawal visited the Museum to study the 'Dichroic Halogen Lighting and the Fibre Optic Lighting at the Museum on 17.3.2002.

Dr. Robert N. Paddle, Senior Lecturer, School of Psychology, Australia Catholic University, Australia visited the Zoology galleries to study the marsupials in the collection of Government Museum, Chennai (Zoology Section).

In Districts:

Hon'ble Minister for Forest and Environment, Thiru S.S.Thirunavukkarasu visited the Government Museum, Kanchipuram along with other dignitaries on 22.12.2001.

S.C. Kuntia, Secretary to Government, Finance Department, Government of Karnataka, Bangalore paid a visit to the Government Museum, Madurai on 23.10.2001

Dr. Deborah A. Swallow, Executive Trustee of the Nehru Trust for the Indian Collections at the Victoria & Albert Museum, London with Thiru. R.L. Piplani, Secretary, Nehru Trust, Teenmurthi House, New Delhi paid a visit to the Government Museum, Pudukkottai on 24.12.2001.

Dr. Deborah A. Swallow, Executive Trustee of the Nehru trust for the Indian Collections, Victoria & Albert Museum, London paid a visit to the Government Museum, Madurai on 29.12.2001.

Dr. Deborah A. Swallow, Executive Trustee of the Nehru Trust for the Indian Collections at the Victoria & Albert Museum, London with Thiru. R.L. Piplani, Secretary, Nehru Trust, Teenmurthi House, New Delhi paid a visit to the Government Museum, Tiruchirapalli and went round the galleries on 29.12.2001.

Thiru. Bernard Alt, U.S Consul General, Chennai paid a visit to the Government Museum, Vellore on 1.11.2001.

Thiru. K.R.M. Kishore Kumar, I.P.S., Chief Vigilance and Security Officer, Tirumala Tirupati Devasthanam, Tirupati paid a visit to the Government Museum, Vellore on 15.11.2001.

Mrs. Geetha Elangovan, Chairman, Vellore Municipal Council paid a visit to the Government Museum, Vellore on 25.11.2001.

Thiru N.T. Shanmugam, M.P., Vellore paid a visit to the Government Museum, Vellore on17.12.2001.

Dr. M. Rajendran, D.R.O. / Special Officer, Kallakurichi Co-Operative Sugars paid a visit to the Government Museum, Cuddalore on 13.12.2001.

Thiru. Sudeep Jain, I.A.S, the District Collector, Nagapattinam, paid a visit to the Government Museum, Nagapattinam on 30.03.2002.

Mr. Davidsan Devashagayam, I.P.S., Superintendent of Police, Cuddalore district visited the Government Museum Tiruvarur on 18.12.2001.

Thiru. S.C. Kuntia, I.A.S., Finance Secretary of Karnataka visited the Government Museum, Kanyakumari on 24.10.2001

The Erode Municipality Chairman, Thiru.M.Subramanian paid a visit to the Erode Museum on 26-12-2001.

Thiru R. Kasinathan, I.A.S., Commissioner of Art and Culture paid a visit to the Government Museum, Udagamandalam on 28.1.2002.

The Nilgiris District Collector, Tmt. Supriya Sahu, I.A.S., paid a visit to the Government Museum, Udagamandalam on 4.3.2002 and 5.4.2002.

Research Facilities and Loan of Objects

Research facilities were rendered to the following persons for their research:

In Chennai:

Guidance was provided for three research scholars to pursue the research in conservation under the guidance of Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory; Information was given to two students form the Department of Journalism, University of Madras; Information on Conservation of Paintings was given to Mr. Siwia Moro from Italy (Chemical Conservation and Research Laboratory); Research facilities were afforded to Thiru. Subbarayalu, I.F.S. retired Chief Conservator of Forests regarding the "Endangered Plants."(Botany Section), during January, February and March, 2002. Research facilities were rendered to Thiru Jyothi Prakasam, Advocate, Chennai on the "South Indian Megalithic Sites" and to Selvi. Theresa, final year student of M.A., Social work from School of Social Work on "Tribal Culture" (Education Section); research facilities were rendered to the II year Architecture students of Satyabama Engineering College for their project work (Contemporary Art Gallery).

During November, 2001 a set of replicas of antiquities of 'Indus Valley Civilisation' from (Education Section) and a display board with electroplated coins, colour photographs and charts from (Numismatic Section) has loaned for the 'Special Exhibition' organised by the authority of M/s. Jayagopal Gardoia National Higher Secondary School, Tambaram. Loan objects were given

from all the sections to A.M.M. Primary School, Sowcarpet (Botany Section).

In Districts:

Tiruchirapalli

Research assistance was extended to Thiru.Subramaniam of Thanjavur ('The Unnoticed palaces of Nayaks in Tiruchirappalli'): Thiru.L.Kajamohideen, a Professor of Jamal Mohammed College ('Rockfort and Its Surroundings') by utilizing the museum resources; Selvi. V.Rani Vijayachandrika, a student of Seethalakshmi Ramasamy College ('Origin And History of Pudukkottai Thondaiman Dynasty).

St. Josephs Anglo-Indian Girls Higher Secondary School conducted an exhibition, SENTEX-2001 as a special event of its Centenary Celebrations for which stone sculptures, fossils and a pulverizer were lent to show in display the archaic basis, art and culture of this district.

Cuddalore

Research facilities were rendered to Thiru. M. Jayaraj , II M.A., history student of Annamalai University to pursue his research on "Monuments of Cuddalore Taluk"; Selvi. K. Bhuvanesvari, M.Phil scholar, Government Arts College, Virudhachalam ("Panruti Vattara Ur Peiyargal"); Selvi. Revathi, M.Phil Scholar of Department of Ancient History and Archaeology, Madras University, ("Thirupadiripuliyur Temple-A Study") by providing study materials.

Erode

Research facilities were rendered to Dr. S. Rasu (Palm- leaf manuscripts), Thiru. Rajib Mukherjee (south Indian Tribes) and Thiru. Prakash (Coins).

Coimbatore

Research facilities were rendered to Thiru. Balu (Medicinal plants) and Thiru. Balaji (History of Coimbatore district)

Palani

Research facilities were rendered to the following persons to their research work: Mr. Kalimuthu, M.Phil., Research

Student, Madurai Kamaraj University (The Government Museum, Palani); Mr. Artistotle, M.Phil., research student, Arulmigu Palaniandavar College, Palani. (Palani-Tourism Destination), Mrs. Tamil Selvi, Reader, Arulmigu Palaniandavar Women's College, Palani (Reference books provided), Mrs. G.Gowsalya Devi, M.Phil., research student, Palani (Reference Books provided)

Krishnagiri

Periyar University research student, Mr. Ganesh, Annamalai University research student, Mr. Sakthivel and Madurai Kamarajar University research student, Mrs. Priya were guided to do research on the historical aspects of Dharmapuri district and about Hero Stones, Hero Shrines and Stone inscriptions.

Udagamandalam

Research facilities were rendered to The Nilgiris district Epigraphist, Dr. Karunanandan (Important features of iconometry of the displayed bronzes); Dr. A. Sundara, Professor (Retd.), Karnataka University, Dharware (The rock art paintings); Mr. M. Ravichandran (Archeological studies).

Kanyakumari

Research facilities were rendered to Thiru. Karan, Maduari (Siva, Workshop in Kanyakumari district), Thiru. Keiser, Kanyakumari (Study on Muttom), Selvi. Nivethita, Nagercoil (Tourism Management) and Thiru. Vaithyanathan Nagercoil (Vattakottai).

Sivagangai

Research facilities were rendered to Mr. Goutham Ashokkumar, Department of History, University of Madurai, ("Sivagangai Museum"); Mrs. Laxmi, M.Phil scholar Department of History, University of Madurai, ("Temples of Sivagangai district").

Training Courses, Competitions and Celebrations

The following training programmes, courses, competitions and celebrations were conducted at the Government Museum, Chennai and district museums:

14.10.2001	One-day training course on 'Siddha's Philosophy' for Traditional Siddha Doctors - Training given by Siddha Doctor, S.Krishnamoorthy, Dharapuram - Government Museum, Palani.
15.10.2001-20.10.2001	Batik Art Training Camp - twenty ladies participated- Government Museum, Madurai
October 2001	First year B.A. History students of Stella Mari's College were given training on Social Awareness Programme on sectional activities and methods of display in the galleries including lighting and labeling; Selvi. Aparna Ganapathy, Assistant Curator of Archaeology Section was given induction training on the sectional works and gallery objects in all the sections and Children's Museum of the Government Museum, Chennai.
30.10.2001	An Essay Competition for 200 school and college students in connection with Wild Life Week-2001 celebrations. Prizes were awarded to the winners - Government Museum, Pudukkottai.
07.11.2001	The project work on Conservation of Art Objects was begun for 7 students from the College of Arts and Crafts, Chennai - Chemical Conservation and Research Laboratary.
13.11.2001	Oratorial, Painting and Music competitions for 500 college and school students in connection with Children's Day celebrations. Prizes were awarded to the winners - Government Museum, Pudukkottai.
25.11.2001-17.02.2002	Lawn Art Training Programme for 115 students of various middle schools in the afternoons of 12 Sundays - Vellore Government Museum and Vellore District Artist Association.

26.11.2001- 05.12.2001 Tanjavur Painting Training Camp-Twenty persons participated - Government Museum, Madurai.

05.12.2001- 10.12.2001 Conservation of Stone Objects-Special Training for 24 students of Madras Christian College, Chennai-600 059 - Chemical Conservation and Research Laboratary.

07.12.2001- 31.12.2001 "Archaeology" - Training given to the III year B.A. History students of C.N.College, Erode-Government Museum, Erode.

24.12.2001 The project work on Conservation of Archaeological Objects" to two students from the History Department of Meenakshi College, Chennai-600 024 - Chemical Conservation and Research Laboratory.

27.12.2001 Poem Competions-2001 for college students of Thiruvarur - Prof.R.Shanmugavalli, Department of Tamil, R.A.C. College, Thiruvaur distributed the prizes to the winners - Government Museum, Thiruvarur.

29.12.2001 District level painting competition for school children - conducted in the Bishop Heber Higher Secondary School, Puthur - 600 students from 60 different schools of the district participated. On 29th December 2001 the District Collector, Dr.K.Manivasan, I.A.S., distributed the prizes and certificates to the winners in a function held in the museum.

The Anna Science Centre - Planetarium had also arranged for a painting competition for the school children and the Curator was entrusted with the honour of selecting the paintings for the prizes. Government Museum, Tiruchirapalli.

07.01.2002 Crash course in artificial flower making- Government Museum, Madurai. Conducted from 7-1-2002 to 10-1-2002 at the museum campus. About twenty ladies participated in this course.

20.01.2002- 27.01.2002 Training on preservation of paintings given to the artists in Balada Tribal Museum - Government Museum, Udagamandalam in collaboration with Balada Tribal Museum and Tamilnadu Ovia Nunkalaikuzhu.

26.01.2002 Republic Day Celebrations - Government Museum Erode.

06.02.2002 - 08.02.2002 Training course on preservation of stuffed animals - 30 B.Sc. students of Sri Paramakalyani College participated - Zoology Section, Government Museum, Chennai.

11.03.2002- 15.03.2002 Training Camp in Epigraphy-22 students from different colleges in and around Madurai participated - Government Museum, Madurai in collaboration with the State Archaeology Department.

13.03.2002- 15.03.2002 Short Term Museology Training to 50 college students - Government Museum, Pudukkottai.

Seminars, Workshops and Camps

The Department of Museums conducted the following seminars, workshops and camps in Chennai and districts:

18.12.2001- 21.12.2001 "International seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" in connection with 150th Anniversary Celebrations at the Museum Theatre - Government Museum, Chennai.

22.03.2001 "Mooligai Arangam" Programme - organised in Collaboration with Dharapuram Siddha Doctor's Association - Government Museum, Palani.

23.03.2001 Seminar on "Herbal Plants" and a Free Siddha Medical Camp - organised in collaboration with Dharapuram Siddha Doctors Association-Government Museum, Palani.

Monthly Siddha Camp and Yoga Demonstration were organised in Government Museum, Chennai (Botany Section).

28-09-2001 "Easily Available Medicinal Plants and Their Usefulness" - by Dr. Siva Thirunavukarasu M.D. (S) General Yoga - by Dr. (Tmt) K.Rajeswari, M.D.(S)

30-10-2001 "Bronchial Asthma and Its Treatment in Unani Medicine" by Dr. Shaikshahul Hameed, M.D. (U) Yoga - by Dr. Mohamed Musthafa, M.D. (S)

27-11-2001 "Herbal Medicine for Joint Pain" - by Dr. Kunrathur Ramamurthy, General Yoga - by Dr. M. Logamanian, M.D. (S)

27-12-2001 "Marma Treatment in Ayurveda" - by Dr. M. Radhika, M.D. (A) Yoga - by Dr. M. Logamanian, M.D. (S)

27-01-2002 "Old Age Disease and Siddha Medicine" - by Dr. G. Ganapathy, M.D. (S), General Yoga - Dr. M. Mohamed Musthafa, M.D. (S)

26-02-2002 "Food is Medicine; Medicine is Food" - by Dr. Kandhapalavesam, M.D. (S) Yoga - Dr. M. Logamanian, M.D. (S)

26-03-2002 "Hygiene"-By Dr. Kandhapalavesam, M.D. (S), Yoga on Hypertension and Obesity - by Dr. M. Mohamed Musthafa, M.D. (S)

Presentation of Paper in Seminars / Workshops

In Chennai:

Dr. R. Kannan. Ph.D., I.A.S., Commissioner of Museums

06.12.2001 Stone Conservation – Paper presented in the Conservation workshop organised jointly by the INTACH, Chennai, Max Muller Bhavan, Chennai and Germany Returnees Association at I.I.T. Chennai.

20.12.2001 Overview of the Legislative Framework for the Protection of Our Cultural Property and Suggestions for Improving Implementation - Paper presented in the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects at Government Museum, Chennai.

08.03.2002 Use of Power Tools in Conservation – Paper presented with Power Point Projection in the Workshop on Use of Power Tools in the Restoration of Monuments conducted by the I.I.T. Chennai Chapter, Chennai.

Thiru. K. Lakshminarayanan,
Assistant Director, Government Musuem, Chennai.

20.12.2001 Nayaks' Sculptures in Virudunagar District - Paper presented in the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects at Government Museum, Chennai.

Dr. V. Jeyaraj,
Curator, Chemical Conservation and Research Laboratory

05.12.2001 Conservation of Stone Objects - Paper presented in the Seminar organised by the German Consul Office at the Indian Institute of Technology, Chennai.

19.12.2001	1. The Status of Preservation of Amaravati Limestone Sculpturess in the Government Museum, Chennai. 2.Traditional and Modern Poulticing Methods in the Removal of Accretions from Stone Sculpture - Paper presented in the "International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at Government Museum. Chennai.
01.03.2002	Museum Professionalism Leads to Success - National Conference of the Museum Association of India at the Regional Museum of Natural History, Bhopal.
23.2.2002	1.Delivered the Key note Address on the Conservation of Stone Monuments at the National Seminar on Development of Tourism and Preservation of the Jain Monuments at the Twin Hills of Bhuvaneshwar, Orissa 2. Conservation of the Twin Jain Monuments Khandagiri and Udhayagiri – Papers presented.

Tirumathi. R. Shanthi,
Curator, Numismatic Section, Government Museum, Chennai

11.1.2002	"A Rare Copper Coin of the Pallava" - paper presented in the seminar organised by the South Indian Numismatic Society at Hydrabad.

Dr. C. Maheshwaran,
Curator, Education Section Government Museum, Chennai

December - 2001	'Anthropology: an Introduction"- Lecture Demonstration and participated as a resource person in the 'Training Course of Paleography' conducted by the Department of Archaeology.
20.12.2001	'Microbial Bio-deterioration of Stone Sculptures in the Bandipur National Park' - Paper presented in the "International Seminar on Conservation of

Stone Objects with Special Reference to Limestone Objects" at the Government Museum, Chennai in connection with it's 150th year celebrations - also acted as the 'Raporteur' in the above "International Seminar" on 20.12.2001.

Thirumathi. M. N. Pushpa,
Curator, Botany Section, Government Museum, Chennai

20.12.2001 "Bio-deterioration of Stone objects." - Paper presented in the "International seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at the Government Museum, Chennai in connection with its 150th year celebrations.

In Districts:

Dr. J. Raja Mohamed,
Curator, Government Museum, Pudukkottai.

20.12.2001 "Medieval Monuments in Pudukkottai and Status of Granite"- paper presented in the "International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at Government Museum, Chennai in connection with its 150th year celebrations.

Thiru M. Gandhi,
Curator, Government Museum, Vellore

19.12.2001 "Conservation of Stone Objects in the Government Museum, Vellore"- paper presented in the "International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at Government Museum, Chennai in connection with its 150th year celebrations.

06.01.2002. "Prehistoric Objects in the Government Museum, Vellore" - paper presented in the Seminar organised by the Commissioner of Archives and Historical Research Centre, Chennai and the Post Graduate

Department of History, Islamiah College, Vaniyambadi on 'Socio-Economic History of Vellore District'.

Thiru N. Soundrapandian,
Curator, Government Museum, Udagamandalam

19.10.2001 "Excavations in Tamilnadu" - paper presented in the Archaeology conference held at the Government Arts College, Udagamandalam

20.12.2001 "The Role of Curator in Preserving Stone Sculptures" - paper presented in the "International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at Government Museum, Chennai in connection with its 150th year celebrations.

Thiru. P. Sam Sathiaraj,
Curator, Government Museum, Madurai

20.12.2001 "Problems Related to Transport and Display of Stone Sculptures in the District Museums in Tamilnadu" - paper presented in the "International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at the Government Museum, Chennai in connection with it's 150th year celebrations.

25.02.2002- 27.02.2002 "Two Unique Memorial Stones in the Collection of the Government Museum, Madurai" - paper presented in the South Indian History Congress held at Trivandrum, Kerala

Participation in Workshops, Expert Committees, Seminars etc...

Dr. V. Jeyaraj,
Curator, Chemical Conservation and Research Laboratory

18.12.2001- 21.12.2001 Organized the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects".

7-3-2002 Conducted the Executive Committee Meeting of the Indian Association for the Study of Conservation of Cultural Property at New Delhi.

Thiru P. Jawahar,
Curator, Zoology Section, Government Museum, Chennai

18.3.2002 Participated in the Workshop on "Museum

21.3.2002 Education" organised by the Salar Jung Museum, Hydrabad.

Tirumathi. R. Shanthi,
Curator, Numismatic Section, Government Museum, Chennai

10.1.2002 - Attended the XI Annual Conference conducted by

11.1.2002 the South Indian Numismatic Society at Hydrabad.

Thiru. J.R. Asokan,
Curator, Design and Display Section, Government Museum, Chennai

08.03.2002 - Curator participated in the training on "Use of

09.03.2002 Power Tools in the Restoration Monuments" conducted by the I.I.T.

28.01.2002- Curator participated in the workshop on "Museum

01.02.2002 Management" in Jodhpur conducted by the Megrangarh Museum, INTACH and the British Council.

Dr. C. Maheshwaran, Curator,
Education Section Government Museum, Chennai

25.01.2002- Participated in the "Museum Management
03.02.2002 Workshop" conducted at Jodhpur Mehrangarh Museum under the joint auspices of Jodhpur Mehrangarh Museum Trust, INTACH and the British Council, New Delhi.

01.11.2001 - Participated in the ' Expert Committee' constituted
03.11.2001 for setting up of the Rock Art Gallery at the

Government Museum, Chennai under the leadership of the Commissioner of Museums and undertaken tour to Bhopal, Agra and New Delhi

04.03.2002- 13.03.2002 Acted as a Liaison Officer for the NFSC Folk Festival conducted at the Museum.

Thirumathi. M. N. Pushpa,
Curator, Botany Section, Government Museum, Chennai

18.3.2002 - 21.3.2002 Participated in the Workshop on "Museum Education" conducted by the Salar Jung Museum, Hyderabad

In District:

Dr. J. Raja Mohamed,
Curator, Government Museum, Pudukkottai.

05.12.2001- 07.12.2001 Participated in the seminar on "Restoration Conservation of Granite" organised jointly by the INTACH, Chennai, Max Mueller Bhavan, Chennai and Germany Returnees Association at I.I.T. Chennai.

Thiru. M. Gandhi,
Curator, Government Museum, Vellore

5.12.2001 - 7.12.2001 Attended Conservation Workshop organised jointly by the INTACH, Chennai, Max Mueller Bhavan, Chennai and Germany Returnees Association at I.I.T. Chennai.

18.12.2001- 20.12.2001 Participated in the "International seminar on Conservation of Stone Objects with Special Reference to Limestone Objects" at Chennai Government Museum in connection with 150th year celebrations.

25.01.2002- 01.02.2002 Participated in a Workshop on Museum Management organised by the Mehrangarh Museum, Jodhpur and the British Council, at

Jodhpur. He showed slides of the Government Museum, Vellore to the participants.

01.03.2002 - 03.03.2002 Participated in the Annual Conference of Museums Association of India at Bhopal.

12.12.2001 Participated Assembly Assurance Committee meeting held at the Vellore District Collectorate.

18.3.2002 Participated in the Advisory Committee meeting at the Vellore District Collectorate regarding antiquities collected by Thiru. R. Sundaram of Gudiyatham,

Thiru N. Soundrapandian,
Curator, Government Museum, Udagamandalam

15.11.2001 Participated in the viva-voice conducted by Barathiar University for the award of Ph.D. degree to Mr. A. Perumal for his thesis "Endeavours of the Protestant Missionaries on the Nilgiris 1826-1947" in Government Arts College, Udhagamandalam.

Thiru. P. Sam Sathiaraj,
Curator, Government Museum, Madurai

05.12.2002 - 06.12.2002 Participated in the Conservation Seminar organized by the Max Mueller Bhavan, Chennai at the I.I.T., Chennai

28.01.2002- 01.02.2002 Participated in the Workshop on "Museum Training" conducted under the auspices of the British Council, New Delhi at the Mehrangarh Museum Jodhpur, Rajasthan.

Thiru. P. Rajamohan,
Curator, Government Museum, Tiruchirappalli

10.11.2001 Participated in the meeting organized by the District Collector for the promotion of art and culture through the district office functioning for that purpose.

05.12.2001- 07.12.2001 Participated in the seminar on the Restoration and Conservation of Stone conducted in Chennai by the Max Mueller Bhavan at I.I.T. Chennai.

Thiru K.Saravanan,
Curator, Government Museum, Nagapattinam

05.12.2001- 07.12.2001 Participated in the seminar on Restoration and Conservation conducted in Chennai by the Max Mueller Bhavan at I.I.T,Chennai

Thiru. T. Packirisamy,
Curator, Government Museum, Sivagangai

22-01-2002 Participated in the seminar on "Pollution - a Death Knell to the Environment" at the Department of Zoology, Rajah Doraisingam Government Arts College, Sivagangai.

Popular Lectures and Special Lectures

26.1.2002 'Personality and Development Oriented Series of Coins Released in the Democratic India' - lecture delivered by Thiru. M. Kandasamy a renowned numismatist of the city - Government Museum, *Tiruchirappalli.*

03.02.2002 "Ilakkiyathil Thagadur" - lecture delivered by Thiru Sundararaman, Vice President – Tamil Sangam - Government Museum, Krishnagiri.

10.03.2002 "Samudaaya Paarvaiyil Magaleer" - lecture delivered by Tmt. Priya Member, Government Hospital, Krishnagiri - Government Museum, Krishnagiri.

Special lectures were organised in the Archaeology Training Course for C.N. College – Erode (07.12.2001- 31.12.2001) - Government Museum, Erode.

12.12.2001 'History of Coins' - Prof. K.A.Thirugnana sambandam, Founder, Kongu Numismatic Society, Erode.

13.12.2001 "Stone Inscriptions of Kongu Nadu" Dr.K.Arangasamy, Gobi.

18.12.2001 "Archaeological Importance of Erode District" Dr.S. Rasu, Founder Kongu Research Centre – Erode.

Special Lectures for the Trainees

The Curators of the Chennai and District Museums delivered the following Popular and Special Lectures:

In Chennai:

Thiru. K. Lakshminarayanan,
Assistant Director, Government Musuem, Chennai.

08.11.2001 South India under British Raj - Lecture to the seminar citizens of U.S.A. at Hotel Chola Sheraton.

06.12.2001 Sculptures and Bronzes in Chennai Musuem - to the Stone Conservation Workshop delegates at Governmen Musuem, Chennai.

Dr. V. Jeyaraj, Curator,
Chemical Conservation and Research Laboratory, Chennai

05.10.2001 Conservation of Museum Objects-55 Students from Sri Vasavi College, Bhavani along with practical work.

12.10.2001 Lecture Demonstrations were provided to the participants of the training programme conducted by the State Institute of Archaeology, Art History, Conservation and Museology, Ernakulam.

1. Preventive Conservation
2. Curative Conservation
3. National and International Museums
4. Museum Architecture

13.10.2001 Lecture Demonstration to the trainees as above on Museum Environment, Museum Display

01.02.2002	The following lecturers were delivered to the students of the College of Architecture and Sculpturing, Mahabalipuram. 1. Preventive Conservation of Stone Sculptures and Architecture 2. Conservation of Art Objects
16.02.2002	Conservation of Cultural Heritage of India- Mahavidhyalaya, Mylapore.
06.03.2002	Material Science of Painting Materials – for the participants of the workshop on Conservation of Paintings at the National Museum, New Delhi.
07.03.2002	Non-destructive Analysis of Pigments – for the Participants of the workshop on Conservation of Paintings at the National Museum, New Delhi.

Tmt.M.N.Pushpa,
Curator, Botany Section, Government Musuem, Chennai.

"Museum and Botany Section - Preservation of Botanical Specimens"- lecture delivered in the "Citizenship Training Programme" for 150 students at Teachers' Training College, Saidapet, Chennai.

In Districts:

Thiru M. Gandhi, Curator, Government Museum, Vellore

Nov. 2001	Curator delivered a lecture to first year M.A. History students from Muthurangam Government Arts College, Vellore, at the Government Museum, Vellore.
20.03.2002, 23.03.2002, 28.03.2002.	Lectures were delivered by the Curator to 70 students of ICCW, Gandhinagar, Vellore, on three days.
20.03.2002	Lectured to 99 students of an Elementary School students of Cholavaram, Vellore taluk.
20.03.2002	Lectured to 40 students of Elementary School, Kanur Thattu near Ambur.
12.03.2002	Lectured to the teacher trainees of Government College of Education, Vellore –6

Thiru.P. Sam Sathiaraj,
Curator, Government Museum, Madurai

07.03.2002 "Museum Movement in India" and "Conservation and Care of Museum Objects" - in the Refresher Course conducted for the History Professors at the Madurai Kamaraj University.

08.03.2002 "Museology, Museum Movement and Preservation of Antiquities" at the Youth Welfare Department, Madurai Kamaraj University for the students preparing for I.A.S. Exam.

Thirumathi. R.D.Thulasi Brinda,
Curator, Government Museum, Krishnagiri

10.3.2002 "Krishnagiri Hill – Rock Art Paintings" – Popular lecture delivered in the Government Museum, Krishnagiri.

Thiru. N. Sundararajan,
Curator, Government Museum, Cuddalore

20.11.2001 "Importance of Museums" lecture in the 34th Natioanal Library Week Celebrations held at District Central Library, Cuddalore.

19.12 2001 Students of Sacred Heart Teachers Training Institute, Cuddalore brought to the Virataneswara Temple at Thiruvadigai and werer explained evolution of architecture from the Pallava to Modern period.

25.02.2002 Presided over Social Science Department function held at Sacred Heart Teachers Training Institute, Cuddalore, and gave a Special lecture about Cuddalore Museum and the Local History.

04.03.2002 "Cuddalore Government Museum and Its Functions" - lecture delivered at Annamalai University, History Department.

Thiru C. Govindaraj,
Curator, Government Museum, Virudhunagar

2.3.2002 "Archaeology and Temple Architecture"- lecture delivered at Madurai Kamaraj University

Thiru. J. Mullai Arasu,
Curator, Government Museum, Erode

10.12.2001 "Museology" - lecture delivered in the Archaeology Training Course for C.N. College students, Erode.

Radio Talks / Television Programmes

29.12.2001 "Special Exhibition on Coins " was telecast in Raj T.V.News - Government Museum, Kanchipuram.

30.12.2001 Interview with Tmt. J.M.Gandhimathi about Treasure-trove gold coins from Perumancheri (Cheyyar Taluk) and Thinnanur (Madhurantagam Taluk) was broadcast in 'Sun News' Telugu channel - Government Museum, Kanchipuram.

Renovations and Improvements to Museums / Galleries

Government Museum, Chennai

Archaeology Section

Work in the Museum website was completed. Categorising art objects as AA (very rare) and their photographing digitally was done. List of bronzes for which holograms were necessary was prepared. The art objects at Pudukkottai Government Museum were digitally photographed. Racks were made to store the bronzes under the Part II scheme. Work regarding the International Seminar on Conservation of Stone Objects with Special Reference to Limestone Objects was done. Digital photographing of manuscripts from the Oriental Manuscripts Library, Chennai continued.

Zoology Section

The following dry mounted specimens were renovated and displayed in Foreign Animals Gallery: Malayan Tapir, Ostrich, Cassowary, Kangaroo, Armadillo, Opossum, and Raccoon.

New showcases on modern line have been installed and the Ostrich, Cassowary, Kangaroo, Apossum, Armadillo and Raccoon are displayed.

New diorama (12' Height x 10' Length) illustrating a Malayan Tapir was set up with vinyl printing backdrop of the suitable environment.

Numismatic Section

Rearranged the display of the plaster cast coins of Indo - British, Indo-Dutch and Indo-French in the Coins Gallery.

In the Philatelic Gallery, the special cover on "Exhibition of South Indian Bronzes" was displayed.

The Curator continues the classification of unidentified copper coins.

Children's Museum

In the Physical Science Gallery, 3 electrical and 3 electronics gadgets were prepared, displayed and changed every month to explain the basic principles of electricity and electronics.

27 new showcases were fabricated, installed and organized display in the Costume Dolls Gallery and Civilisation Gallery.

2 new showcases and 24 wall paneling showcases were fabricated and installed in the Technology Gallery's Science Corner.

Building repair works like changing the weathering tiles, brick works in the ventilators to prevent water leakage, changing the drain water pipes, relaying the platform slabs in the rear side and fencing the Children's Science park-play area with a staircase provision from the ramp way were carried out by the Public Works Department.

Design and Display Section

Under Part II scheme of 2001-2002 a new gallery called Rock and Cave Art Gallery was established in the Contemporary Art Gallery II Floor. 90% of the work has been completed.

Design and Display Curator assisted other Curators in

loading AA (very rare) and objects in the computer in connection with computer documentation of museum objects.

Contemporary Art Gallery

The Rock and Cave Art Gallery was set up in the II Floor of the Contemporary Art Gallery.

In Districts:

Pudukkottai

Glazed tiles were laid in the Arts and Industries Galleries by the Public Works Department.

Under the Part II scheme 2001-2002, improved lighting arrangements with dichroic halogen lamps. rewiring the whole building with additional fans and lights were ever necessary, were done within the budgetary provision of Rs. 1.5 lakhs.

Madurai

Three modern showcases of International Standards were made for the display of bronzes.

Tiruchirapalli

With the financial outlay sanctioned under Part II schemes of the annual plan for the year 2001-2002, the renovation work for Rs.2.16 lakhs, construction work of a toilet for visitors for Rs.95,000/- and electrical works for Rs.89, 000/- were undertaken by the respective wing of the Public Works Department.

Vellore

Backgrounds of fishes had been improved with painting clear varnish in the 'Fishes' showcase.

Kanyakumari

North Indian, sculptures were displayed. Terracottas of Aiyannar, horse, camel and dinosaur were displayed in the relevant galleries.

Erode

Under the Part II scheme 12 showcases were renovated.

Palani

Hundred years old clay pots and a tiny metal jar were displayed in the Gallery. Three paintings were displayed

Krishnagiri

Anthropology and archaeology show cases were renovated. The herostones in the Museum Sculpture – Park were cleaned and labels were written on the pedestals.

Nagapattinam

Three interactive working models were repaired and re-displayed.

Sivagangai

Two new showcases were installed to display new addition.

Exhibition:

In Chennai and Districts

04.10.2001-10.10.2001	Freedom Fighters Photographic Exhibition - Government Museum, Salem.
24.10.2001-31.10.2001	'One-man Show of the Batik Art Works by Mr. Abdul Rahim' - Government Museum, Madurai.
26.11.2001-28.11.2001	'Special Exhibition on Coins' - 300 coins were exhibited - Government Museum, Salem.
18.12.2001-31.12.2001	In connection with the 150th year celebration of the Government Museum, Chennai an Exhibition on 'Conservation of Stone Objects' was conducted and the A.S.I., G.S.I. of the Madras circle and Gem Granites National Museum, New Delhi, National Research Laboratory for Conservation, Jaipur Museum, Government Museum, Chennai (Chemical Conservation, Archaeology and Botany Sections) participated in the exhibition.

6-3-2002	Rendered help to National Folk-lore Support Centre (N.F.S.C.) in the exhibition of Folk Paintings and Musical Instruments.
13.12.2001-20.12.2001	"Exhibition on Thanjavur Paintings" at the Gandhi Museum Exhibition Hall. The collections of Thanjavur paintings of Madurai artists were exhibited in this exhibition - Government Museum, Madurai in collaboration with the K.A.M. Art Centre, Madurai
29.12.2001	"Paintings Exhibition" - Paintings drawn by the school students on various topics were displayed. Dr.K.Manivasan, I.A.S., District Collector, inaugurated the exhibition - Government Museum, Tiruchirappalli.
26.01.2002-28.01.2002	"Special Exhibition on Coins" - Special and Commemorative Coins Released in the Democratic India were displayed-Government Museum, Tiruchirappalli.
30.1.2002-31.1.2002	Palm-leaf and Copper Plate Exhibition - Government Museum, Salem.
26.12.2001-31.12.2001	"Special Exhibition on Coins" Government Museum, Erode.
03.03.2002	One-day Exhibition on Coins', 4000 coins exhibited - organised jointly with 'Baramahal Coins Society'- Government Museum, Salem.
16.3.2002-18.3.2002	Special Exhibition on 'Medicinal Plants' - Government Museum, Pudukkottai.

Publications

1. Jain Iconography-Vol 2 - Dr. R. Kannan,Ph.D.,I.A.S., Commissioner, Thiru K. Lakshminarayanan, Assistant Director.

2. Abstracts Book of the International Seminar on Conservation of Stone Objects, 18-21, Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory, Chennai.

3. Reprinting of three books on conservation was carried out. - Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory, Chennai

4. Handbook on Conservation in Museums - Dr. V. Jeyaraj.

5. Care of Museum Object - Jointly with Thiru. N. Harinarayanan former Director of Museums.

6. Care of Paintings - Dr. V. Jeyaraj.

7. Museum's Journal Vol-6 (Tamil&English Chief Editor, Dr. R. Kannan, I.A.S., Editors Dr. V. Jeyaraj and Thiru. K. Sekar, Curators.

Pamphlets

1. General brochure on the museum as a whole - Dr. R. Kannan, Ph.D.,I.A.S., Commissioner, Dr. V. Jeyaraj, Curator and Thiru K. Lakshminarayanan, Assistant Director.

2. Rock and Cave Art Gallery - Brochure - Dr. R.Kannan, Commissioner.

3. Paintings in the National Art Gallery and the Contemporary Art Gallery - Brochure - Dr.R. Kannan, Commissioner, Thiru K. Sekar and Thiru M. Mohan, Curators.

4. Children's Museum - Brochure - Dr. R.Kannan, Commissioner and Thiru K. Sekar, Curator, Children's Museum

5. Conservation of Stone Objects, 18-21-12-2001, Chennai - Dr. V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory, Chennai

6. Chemical Conservation and Research Laboratory, 2002- Dr.V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory, Chennai

List of the Museums Publications Available for Sale in Chennai and District Museums:

Sl. No.	Titles and Authors	Price Rs.
1.	Guide to the Important Monuments in and Around Pudukkottai – M. Raghupathy	30.00
2.	Guide to the Archaeological Galleries – An Introduction to South Indian Temple Architecture and Sculpture – F.H.Gravely and C. Sivaramamurti	25.00
3.	Guide to the Buddhist Antiquities – A. Aiyappan and P.R. Srinivasan	30.00
4.	Illustrations of Indian Sculptures Mostly Southern - for use with the Guide to the Archaeological Galleries – F.H.Gravely and C.Sivaramamurti	25.00
5.	Select Bronzes in the Chennai Museum – M. Raman, I.A.S.	35.00
6.	Guide to the Bronze Gallery – V.N.Srinivasa Desikan	50.00
7.	A Souvenir Released on the Occasion of the Exhibition on South Indian Bronzes - M.Raman, I.A.S.	51.00
8.	Amaravati Sculptures in the Chennai Government Museum – C.Sivaramamurti	210.00
9.	Nagapattinam and Other Buddhist Bronzes T.N.Ramachandran	117.00
10.	Bronzes of South India – P.R.Srinivasan	386.00
11.	Hand Book of the Madras Government Museum	80.00
12.	Notes on Hindu Images - F.H.Gravely and C.Sivaramamurti	12.00

13. Guide to the Contemporary Art Gallery - M.Mohan 60.00

14. Catalogue of Jain Sculptures in the Collection of Government Museum, Chennai - R.Balasubramanian 20.00

15. Catalogue of Stone Sculptures in the collection of the Government Museum, Trichy- N.Sankaranarayana 20.00

16. Government Museum, Chennai (A small hand book) 5.00

17. Government Museum, Chennai (Colour Folder) 10.00

18. Ancient Industries of Tamil Nadu - Natana Kasinathan 35.00

19. Sri Vaishnava Brahmins - Diwan Bahadur K.Rangachar 100.00

20. Early Eastern Chalukya Sculptures - C.Sivaramamurti 70.00

21. Scripts in and Around India - V.Kannaiyan 50.00

22. Kalaichelvangal (Tamil) - R. Nagasamy 50.00

23. Buddhist Sculptures from Stupa Near Goli Village, Gundur District - T.N.Ramachandran 40.00

24. Catalogue of Copper Plate Grants - R.Srinivasa Ayyangar 40.00

25. List of Inscriptions on Tombs or Monuments in Madras - Julian James Cotton, C.S. 110.00

26. Story of Buddhism - A.Aiyappan and P.R.Srinivasan 115.00

27. Nolamba Sculptures - C.Sivaramamurti 50.00

28. Indian Epigraphy and South Indian Scripts 285.00

29. Centenary Souvenir, Government Museum, Chennai (1851 – 1951) 175.00

30. The Three Main Styles of Temple Architecture Recognised by Silpa Sastras – F.H.Gravely and T.N.Ramachandran 20.00

31. Beginnings of the Traditions of South Indian Temple Architecture – P.R.Srinivasan 20.00

32. An Outline of Indian Temple Architecture – F.H.Gravely 20.00

33. Government Museum, Chennai as a Research Institution – N.Devasahayam and V. Jeyaraj 35.00

34. Proceedings of the Seminar on Conservation of Cultural Heritage – V.Jeyaraj 15.00

35. Handbook on Conservation in Museums – V. Jeyaraj 35.00

36. Care of Museum Objects – N. Harinarayana and V. Jeyaraj 20.00

37. Guide to the Anthropological Exhibits – C.J. Jeyadev 39.00

38. Adivasis of Kodiakkarai – A.V.N. Sarma 9.75

39. The Tali in Relation to 'South Indian Initiation Rites – C.J. Jayadev 7.55

40. The Harappan and the Vedic Cultures: Musings on Some Moot Problems – K.R. Srinivasan 15.00

41. Catalogue of the Prehistoric Antiquities – Alexander Rea 35.00

42. Catalogue of Musical Instruments Exhibited in the Government Museum, Chennai – P. Sambamoorthy 35.00

43. The Adichanallur Skulls –S. Zuckerman 25.00

44. Excavation by the Madras Museum at Kilpauk, Panunda, Punnol and Sankavaram
– M.D. Raghavan 25.00

45. Nayars of Malabar 35.00
– F.Fawcett

46. Report on the Socio-Economic Conditions of the Aborginal Tribes of the Province of Madras – A. Aiyappan 85.00

47. Ancient Culture and Tribal Culture (Tamil)
– C.J. Jeyadev and M. Ragupathy 25.00

48. The Foote Collection of Indian Prehistoric and Protohistoric Antiquities
– Robert Bruce Foote 200.00

49. Puppets in the Collection of the Madras Government Museum
– N. Devasahayam 55.00

50. Catalogue of Vijayanagar Coins in the Madras Government Museum
– N. Sankaranarayana 74.00

51. Catalogue of Venetian Coins in the Madras Government Museum
– T.G. Aravamuthan 40.00

52. Catalogue of Venetian Coins in the Government Museum, Madras
– N. Sankaranarayana 25.00

53. Medals in the Collection of the Chennai Government Museum
– N. Sankaranarayana 31.50

54. Select Satavahana Coins
– N. Devasahayam, M. Ramarao 20.00

55. Descriptive Catalogue of the Butterflies in the Collection of Madras Government Museum
– S.T.Satyamurti 231.00

56. The Echinodermata in the Collection of the Madras Government Museum – S.T.Satyamurti 36.40

57. The Birds' Eggs and Nests in the Collection of the Madras Government Museum – S.T.Satyamurti 43.95

58. Grasshoppers in the Collection of the Government Museum, Madras – G.Kesavaram 85.00

59. Guide to the Bird Gallery – S.T.Satyamurti 11.30

60. Mammals (Tamil) – S.T.Satyamurti 8.30

61. The Preservation of Zoological Specimens – P. Jawahar 10.00

62. Handbook of Museum Technique – A. Aiyappan & S.T. Satyamurti 71.00

63. Guide to the Fish Gallery – S.T.Satyamurti 65.00

64. Guide to the Lizards, Crocodiles, Turtles and Tortoises Exhibited in the Reptile Gallery – S.T. Satyamurti 55.00

65. Guide to the Galleries of Foreign Animals, General Zoology, Skeletal Exhibits and Amphibians – S.T. Satyamurti 50.00

66. Guide to the Snakes Exhibited in the Reptile Gallery – S.T. Satyamurti 20.00

67. Guide to the Invertebrate Galleries – S.T. Satyamurti 7.05

68. The Wild Ferns of Madras City and Its Immediate Neighbourhood – M.S. Chandrasekar 7.10

69. Flowering Plants of Madras City and Its Immediate Neighbourhood – P.V. Mayuranathan 308

70. Medicinal Plants (Tamil) – M.N. Pushpa 10.00

71. Special Features of Siddha Medicine (Tamil) 25.00

72. Guide to the Principal Exhibits in the Geological Galleries – E. George Jesudosan 13.55

73. Coins of India Through the Ages – P.N. Mohandoss 10.00

74. Temples of Periyar District (Tamil) – V. Jeyaraj 70.00

75. Handbook on Preservation of Botanical Specimens – M.N. Pushpa 21.00

76. Preservation of Records (Tamil) – V. Jeyaraj 15.00

77. Documentation on the Cannons in the Government Museum, Chennai (Madras) – R. Kannan I.A.S., and R. Balasubramanian 50.00

78. Whales (Tamil) – J.R. Asokan 10.00

79. Holistic Approach to Dating in Ancient History, Especially Indian History – R. Kannan, I.A.S. 35.00

80. Crocodiles (Tamil) – J.R. Asokan 15.00

81. Scientific Facts about Snakes (Tamil) – J.R. Asokan 20.00

82. An Introduction to the Chemical Conservation and Research Laboratory – V. Jeyaraj 5.00

83. Medicinal Plants Used in the Siddha System of Medicine – M.N. Pushpa 15.00

84. Snakes - An *Introduction* – J.R. Asokan 10.00

85. Restoration of Oil Paintings from Madras Christian College – V. Jeyaraj 15.00

86. Guide to the Government Museum, Erode (Tamil) – V. Jeyaraj 15.00

87. Guide to the Government Museum, Nagapattinam (Tamil) – V. Jeyaraj, J.R. Asokan, K. Saravanan 10.00

88. Government Museum, Nagapattinam
- An Overview - V. Jeyaraj, K. Saravanan 25.00

89. Iconography of the Jain Images in the Government Museum, Chennai (Madras)
- R. Kannan, I.A.S., K. Lakshminarayanan 200.00

90. Proceedings of the Seminar on Our Role in Protecting Cultural Heritage
- R. Kannan, I.A.S., V. Jeyaraj, J.R. Asokan, and R. Balasubramanian 70.00

91. Nayak Sculptures of Virdhunagar District (Tamil)
- K. Lakshminarayanan 52.00

92. Manual for Disaster Management in Museums
- R.Kannan, I.A.S.,

93. Manual for Disaster Management in Museums (Tamil)
- R. Kannan, I.A.S.

94. Museum's Journal (October 1999 - March 2000)
- R. Kannan, I.A.S., V. Jeyaraj and K. Sekar 40.00

95. Museum's Journal (October 1999 - March 2000) (Tamil)
- R. Kannan, I.A.S., V. Jeyaraj and K. Sekar 40.00

96. Museum's Journal (April - September 2000)
- R. Kannan, I.A.S., V, Jeyaraj and K. Sekar 40.00

97. Museum's Journal (April - September 2000) (Tamil)
- R. Kannan, I.A.S., V. Jeyaraj and K.Sekar 40.00

98. Museum's Journal (October 2000 - March 2001)
- R.Kannan, I.A.S., V. Jeyaraj and K.Sekar 50.00

99. Museum's Journal (October 2000 - March 2001) (Tamil)
- R. Kannan, I.A.S., V. Jeyaraj and K. Sekar 50.00

100. Museum's Journal (April - September 2001)
- R. Kannan, I.A.S., V, Jeyaraj and K. Sekar 50.00

101. Museum's Journal (April - September 2001) (Tamil)
- R. Kannan, I.A.S., V. Jeyaraj and K.Sekar 50.00

Articles Published

Dr. R. Kannan Ph.D., I.A.S., Commissioner of Museums

1. Documentation of the Project Management Process for the Web Site of the Government museum, Chennai - Museum's Journal, Vol. 6, Government Museum, Chennai, December, 2001

2. The Idol of Balakrishna in the Government Museum, Chennai - A Symbol of the Haleyon Days of the Vijayanagar Empire - Museum's Journal, Vol. 6, Government Museum, Chennai, December, 2001.

3. Some Cultural Parallels Found in Mayan and Hindu Cultures - Museum's Journal, Vol. 6, Government Museum, Chennai, December, 2001.

4. Overview of the Legislative Framework for the Protection of Our Cultural Property and Suggestions for Improving Implementation – Preprint of the International Seminar Proceedings on 'Conservation of Stone Objects with Special Reference to Limestone Objects', Government Museum, Chennai, December, 2001.

Dr. V. Jeyaraj,
Curator, Chemical Conservation and Research Laboratory

1. Report on the Study of Rock Art in Tamil Nadu and Suggested Conservation Measures, Museum's Journal, Vol. 6 (Tamil), Government Museum, Chennai, 2001.

2. Brough and His Service to Christianity, Museum's Journal, Vol. 6 (Tamil), Government Museum, Chennai, 2001.

3. Preservation of Stone Inscriptions, Journal of the South Indian Numismatic Studies, Vol. 27, Mysore,2001.

4. Preservation of Jain Monuments in the Twin Hills of Orissa, Seminar organised by the Regional Institute of Management on 24th March 2002, Bhuvaneshwar, Orissa.

5. The Status of Preservation of the Amaravati Limestone Sculptures in Government Museum, Chennai – Preprint of the International Seminar Proceedings on 'Conservation of Stone Objects with Special Reference to Limestone Objects', Government Museum, Chennai. December, 2001.

6. Traditional and Modern Poulticing Methods in the Removal of Oil Accretions from Stone Sculptures – Preprint of the International Seminar Proceedings on 'Conservation of Stone Objects with Special Reference to Limestone Objects', Government Museum, Chennai, December, 2001.

Tmt. R. Shanthi,
Curator, Numismatic Section, Government Museum, Chennai

"Two copper Coins of Sangam Pandyas", Special Bulletin of the Madras Coins Society, 2001.

Thirumathi. M. N. Pushpa,
Curator, Botany Section, Government Museum, Chennai

"Reorganisation and Renovation of Economic Botany Gallery of the Government Museum, Chennai" Journal of Indian Museum, Museums Association of India, 2001.

Dr. J. Raja Mohamed,
Curator, Government Museum, Pudukkottai

Medieval Monuments of Pudukkottai Status of Granite – Preprint of the International Seminar Proceedings on 'Conservation of Stone Objects with Special Reference to Limestone Objects', Government Museum, Chennai, December, 2001.

Thiru M. Gandhi,
Curator, Government Museum, Vellore

1. "Copper Antennae Swords of Appukkal" - Museum's Journal - Vol.6, December 2001.

2. "Koratti Surya", Pazhangasu Magazine, Trichy, January, 2002.

Dr. C. Maheswaran,
Curator, Education Section, Government Museum, Chennai

1. "The Copper Antennae Swords Unearthed from Coimbatore District" (English) - Museum's Journal - Vol. 6, December 2001.

2. "Two Rare Icons of Deities from the Indian Iconographic Perspectives" (Tamil) - Museum's Journal - Vol. 6, December 2001.

Thiru. C. Govindarajan,
Curator, Government Museum, Virudhunagar

Dravidian Architectural Element in the Indus Valley Civilization – Museum's Journal - Vol. 6, December 2001.

Thiru. N. Soundarapandian,
Curator, Government Museum, Udagamandalam

1. Wellington Military Cantonment - Museum's Journal, Vol. 6, December 2001.
2. "The Role of Curator in Preserving Stone Sculptures" – Preprints of the International Seminar Proceedings on 'Conservation of Stone Objects with Special Reference to Limestone Objects', Government Museum, Chennai, December 2001.

Thirumathi. R.D. Thulasi Brinda,
Curator, Government Museum, Krishnagiri

"Krishnagiri in Indus Valley Civilization" – Maangani, March 2002.

Thiru. T. Packirisamy, Curator,
Government Museum, Sivagangai

"Birds' Migration" - Museum's Journal, Vol. 6, December 2001.

Thiru K. Saravanan,
Curator, Government Museum, Nagapattinam

"Nagore Surya Sculpture" Museum's Journal (Tamil) Vol.6, December , 2001.

Thiru N. Sundararajan,
Curator, Government Museum, Cuddalore

"Stone Sculptures and Their Environment"- Preprint of the International Seminar Proceedings on 'Conservation of Stone Objects with Special Reference to Limestone Objects', Government Museum, Chennai, December 2001.

Research Activities

1. Finger-printing of South Indian Bronzes in collaboration with the Indira Gandhi Centre for Atomic Research, Kalpakkam (Chemical Conservation and Research Laboratory and Archaeology Section).

2. Holographying Bronzes in collaboration with the Centre for Laser Technology, Anna University, Chennai (Chemical Conservation and Research Laboratory and Archaeology Section).

3. The Rock Art Committee comprising of Dr. R. Kannan, Ph.D., I.A.S., Thiru K. Lakshminarayaan, Assistant Director of Museums, Dr.V. Jeyaraj, Dr. C. Maheswaran, Thiru J.R. Asokan and Thiru.R. Balasubramanian, Curators along with the supporting staff Thiru G. Ramesh and B.Shankar conducted research work at the Bhimbetka Rock Art sites, Shamia Hills Rock Art sites within the ' Indira Gandhi Rashtriya Manav Sangrahalaya (IGRMS)' (i.e.) Indira Gandhi National Museums of Mankind) campus, Bhopal; Keezhvalai, Alambadi and Perumukkal Rock Art sites of Villupuram District on 01.11.2001 and 15.02.2002.

4. Thiru. M. Gandhi, Curator, Government Museum, Vellore is continuing research on the Inscriptions and Fort of Sambuvaraya ruler at Pallalakuppam hill, Gudiyatham taluk and Dantivarman's Inscriptions at Balekuppam, Katpadi Taluk.

5. In connection with the publication of "Iconography of the Jain Images in the in the District of Tamilnadu" (cover the musems of the Departments of Archaeology and Museum) New series - G.S. Vol. XVII No. 1.2002 a report on the

analysis of adhered particular in the inner core of hollow bronze from Government Museum, Vellore

The Commissioner of Archaeology and Museums Dr.R.Kannan, Ph.D., I.A.S. deputed the Archaelogical Chemist. Mr.M.S. Ashok Deen to examine the inner core of a Jain bronze displayed in the Vellore Government Museum. It was cast by hollow costing technique. The sample was sent to the Chemical Testing Analytical Laboratory, Chennai-32 of the Industries Commerce Department, Government of Tamilnadu. As per their analysis report the black material was proved to be siliceous materials. The results are as follows:

1	Moisure	0.3 %
1.	Loss on ignition	2.60 %
2.	Silica as SiO_2	72.63 %
3.	Iron as Fe_2O	32.94 %
4.	Titanium oxide as TiO_2	0.35 %
5.	Aluminium as Al_2O_3	17.69 %
6.	Colcium as CaO	Traces
7.	Magnesium as MgO	0.52 %
8.	Sodium as Na_2O	1.43 %
9.	Potasium as K_2O	0.92 %
10.	Copper as CuO	0.62 %

The inner core consists of hydrated aluminium silicate of variable composition. The back colour of the adhered particile was due to the heating for casting. The basic characteristic of this type of clay is that it is plastic and is capable of containing Moisture so that it can modelled and moulded. It hardens on drying. On heating it becomes rigid and stony. It does not yet damaged for many years. It does change form and these qualities have made man to use clay in a wide variety of industries like bricks, ceramics, etc. It is the material of choice to cast bronze icons.

Reports

Dr. V. Jeyaraj,
Curator, Chemical Conservation and Research Laboratory

1. Report on the Conservation of Materials of Yogi Ramsurat Kumar in the Ramsurat Kumar Ashram, Thiruvannamalai.

2. Report on Rock Art in Tamil Nadu.

Dr. C. Maheswaran,
Curator, Education Section, Government Museum, Chennai

Report on the Indian / Tamilnadu Rock Art sites (November 2001).

Thiru J. R. Asokan,
Curator, Design and Display Section

Report and project proposal for the establishment of a museum in the Yogi Ramsurat Kumar Ashramam at Tiruvannamalai.

Conservation Work

1920 Raja Raja Chola copper coins, 72 silver coins, 4 bronze icons, 2 Amaravati limestone sculptures, 57 pieces of textiles, two oil paintings on canvas, four water colour paintings, ten oil paintings from Government Museum, Pudukkottai were suitably conserved. All the sculptures from the Hindu Sculpture Gallery and Entrance Gallery and Amaravati Sculpture Gallery were cleaned suitably.

During December 2001, the replicas of the antiquities of the 'Indus Valley Civilisation' in the reserve collection of the Education Section of the Museum were given restoration and conservation treatment by the Artist Modeler, under the supervision of the Curator of the Education Section.

About fifty vascular plants were given preservative coating with saturated solution of mercuric chloride and spirit.

The staff of the Pudukkottai Museum helped to strengthen and preserve the exhibits in the zoology department's Museum, at Government College for Women, Pudukkottai.

Staff Changes

Dr. C. Maheswaran, Curator, Ciombatore was transferred and posted as Curator Education Section, Government Museum, Chennai on 16.10.2001.

Thiru J. Mullaiarasu, Curator, Government Museum, Erode is holding additional charge of Government Museum, Coimbatore from 19.10.2001.

Tours Undertaken

Dr. R. Kannan, Ph.D., I.A.S.,
Commissioner of Museums

30-10-2001 - 05-11-2001	Tour to Bhopal, Agra, Delhi to inspect the Rock Art sites in Bhopal, Rock Art Society's Office in Agra, National Museum and National Museum of National History in New Delhi along with some Curators and the Assistant Director of Museums in connection with the Rock Art Gallery.
18-12-2001- 19-12-2001	Attended the meeting on Central Archaeology Advisory Committee in the Chamber of Minister for Culture & Tourism at new Delhi.
27-02-2002 - 04-03-2002	Attended the Conference of Museums Association of India at Bhopal
9.3.2002	Visited Poondi Site Museum & Athirampakkam Historic Excavation,
29-03-2002- 02-04-2002	Thanjavur, Tiruvarur, Nagapatinam, Tranqubar, Poompuhar site Museum, Mayiladuthurai, Chidambaram, Cuddalore - Inspected Gangaikondacholapuram, Kilpalavur monuments and site museums. Inspected Kalyana Mahal & Thanjavur Art Gallery. Discussed with Prince & Thanjavur Collector. Inspected Government Museum and Tiruvarur Temple for renovation. Inspected Government Museum and discussed with the Collector, Nagapatinam. Inspected Government Museum, Cuddalore

Thiru. K. Lakshminarayanan,
Assistant Director, Government Musuem, Chennai.

1-11-2001	Undertook Study-tour to Bhopal and studied the Rock Art sites at Bhimbetka, Museum of Mankind and the State Museum, Bhopal along with the Rock art Study Team.

2-11-2001 Discussed with the Secretary of the National Rock Art Society, Agra about the rock art of India along with the Rock art Study Team.

3-11-2001 Visited National Museum of Natural History, National Rail Museum and National Museum, New Delhi and got information regarding the setting up of the Rock Art Gallery in the Museum.

15.02.2002 Tour to Rock Art sites at Keezhvalai, Perumukkal and Alambadi of Villpuram district.

Dr.V. Jeyaraj,
Curator, Chemical Conservation and Research Laboratory

01.11.2001 Undertook Study-tour to Bhopal and studied the Rock Art sites at Bhimbetka, Museum of Mankind and the State Museum, Bhopal along with the Rock art Study Team.

02.11.2001 Discussed with the Secretary of the National Rock Art Society, Agra about the rock art of India along with the Rock art Study Team.

03.11.2001 Visited National Museum of Natural History, National Rail Museum and National Museum, New Delhi and got information regarding the setting up of the Rock Art Gallery in the Museum.

Discussed with the Secretary of the Indian Association for the Study of Conservation of Cultural Property regarding the conduct of the International Seminar on Conservation of Stone Objects.

21.12.2001 34 Delegates of the Seminar were taken to Mahabalipuram, Kanchipuram and Muttukkadu to visit various monuments and Open Air Museum of the Dhakshinachitra on a post-conference tour.

01.2.2002	Discussed with the Scientists of the Indira Gandhi Centre for Atomic Research, Kalpakkam on the Metallography of Coins and Infra Red Photography of Paintings.
03.3.2002	Visited Sanchi to study the Buddhist Stupa
04.3.2002	Discussion with Dr. Tej Singh, Director of the National Research Laboratory for Conservation, Lucknow after visiting the Laboratory on Conservation issues. Discussion with Mrs. Usha Agrawal, Director of INTACH, Lucknow on the conservation of antiquities. Discussion with Mr. Palaniappan, Secretary, Regional Secretary, Lalit Kala Academy on conservation issues related to paintings
5-3-2002	Visited the Conservation Laboratory of the INTACH, New Delhi and discussed with Dr.O.P.Agrawal, Director General of ICCI, New Delhi on conservation issues.
30-3-2002	Undertook tour to Thiruvarur along with the Commissioner of Museums to examine the paintings at the Thousand-Pillared Mantap of the Thiagarajaswamy Temple, Thiruvaraur.

Thiru. P. Jawahar,
Curator, Zoology Section

24.01.2002-25.01.2002	To conduct enquiry in the Government Museum, Vellore.
06.02.2002-08.02.2002	To conduct enquiry in the Government Museum, Tirunelveli.

Thiru M. Mohan,
Curator (in-charge), Geology Section

4.12.2001	Under took tour to Sathyavedu to explore the details and find out the possibility of getting red sand stone in connection with conserving the National Art Gallery building.

Thiru. R.Balasubramanian,
Curator, Archaeology Section

08.10.2001- 12.10.2001 To digitally photograph art objects at the Government Museum, Pudukkottai.

30.10.2001- 05.11.2001 To the Rock Art sites in Bhopal, Rock Art Society, Agra, National Museum and National Museum of National History in New Delhi in connection with the Rock Art Study.

31.01.2002- 04.02.2002 To Thanjavur regarding taking over of the Tanjore Art Gallery.

30-03-2002 To digitally photograph the Jain Bronzes in the Government Museum, Vellore.

Thiru. J. R. Asokan,
Curator, Design and Display Section

30-10-2001 - 05-11-2001 To the Rock Art sites in Bhopal, Rock Art Society Agra, National Museum and National Museum of National History in New Delhi along with the Commissioner of Museums and the Assistant Director of Museums in connection with the Rock Art Study.

Dr. C. Maheswaran,
Curator, Education Section, Government Museum, Chennai

01.11.2001 Study tour to Bhimbetka Rock Art sites, along with other members of the Rock Art Committee headed by the Commissioner of Museums.

01.11.2001 Study tour to Shamla Hills Rock Art sites at IGRMS Campus, Bhopal, along with other members of the Rock Art Committee headed by the Commissioner of Museums.

02.11.2002 Study tour to the 'Rock Art Society of India (RASI) at Agra and had discussion with Dr. Giriraj kumar, Secretary of Rock Art Society of India, along with

other members of the Rock Art Committee headed by the Commissioner of Archaeology and Museums.

03.11.2001 Study tour to the National Museum of Natural History (NMNH) and the National Museum, at New Delhi, along with other members of the Rock Art Committee headed by the Commissioner of Museums.

23.11.2001 Tour to the prehistoric Museum at Poondi, as an expert committee member.

15.02.2002 Tour to Rock Art sites at Keezhvalai, Perumukkal and Alambadi of Villpuram district.

Thiru. M. Gandhi,
Curator, Government Museum, Vellore.

01.10.2001 Inspected treasure-trove from Veppampattu at Vandavasi Taluk Office.

03. 10. 2001 Explained to the Commissioner of Museums and Archaeology, the Jain temples of Thirumalai, Polur taluk and surveyed Yogi Ram Surat Kumar's Ashram, Thiruvannamalai

18.10.2001 Showed to the Commissioner of Museums and Archaeology the Battle Field of Vandavasi where the battle took place between the British Captain Eyre Coote and French Captain Lally to erect a memorial at Vandavasi and accompanied Commissioner while visiting Chandramoulishwara Temple at Natteri, Cheyyaru taluk.

14.12. 2001- 21.12. 2001 On other duty at Government Museum, Chennai in connection with it's 150th year celebrations.

19. 02. 2002 Went on tour to Oravandavadi, Chengam taluk, Tiruvannamalai district to inspect treasure-trove objects.

20.02.2002 Showed to the Thiruvanamalai District Collector, the Battle Field of Vandavasi, where the battle took

place between British Eyre Coote and Frence Lally at Vandavasi and a site to erect memorial in memory of the above battle at Vandavasi and inspected stone sculptures at Mahadevimangalam in the same taluk.

21.02. 2002 Inspected treasure-trove objects at Vaniyambadi taluk office and Pattu village, Gudiyatham taluk.

23. 02. 2002 Took estampage of inscription at Vinnampalli, Katpadi taluk.

Thiru. P. Sam Sathiaraj,
Curator, Government Museum, Madurai

16.10.2001 Went to Kallanthiri village, Madurai district to survey some Hero stones.

09.01.2002 Went to Kandamanur village, Theni district to survey the skull of an elephant excavated there.

Thiru. A. Periasamy,
Curator, Government Museum, Palani

15.02.2002 Inspected a Hero-Stone at Manur, Palani.

16.02.2002 Insepection of stone sculputure near Manur.

Thiru. N. Soundrapandian,
Curator, Government Museum, Udagamandalam

08.01.2002- 09.01.2002 Visited Coimbatore, Archaeological Site Museum, to study the Iconography of Stone Sculpture collected from Erode and Coimbatore Districts.

05.03.2002- 06.03.2002 Visited Kothagiri, Kannerimukku to inspect the John Sullivan measurement and submitted report to Commissioner of Museums.

Thirumathi R.D. Thulasi Brinda,
Curator, Government Museum, Krishnagiri

04.10.2001 To inspect the treasure-trove at Palagode taluk office

08.11.2001 To inspect hero-stones near Penneswararmadam Temple.

12.12.2001 To Vepannapalli to study Palm-leaf manuscripts.

Thiru. G. Karunanidhi,
Curator, Government Museum, Tiruvarur

18.02.2002 To inspect the treasure-trove (Bronzes) at Taluk Office Valangaiman, Thiruvarur district.

15.03.2002 To inspect the treasure-trove (Bronzes) at Mannargudi Taluk Office, Tiruvaur district.

Thiru. K. Saravanan,
Curator, Government Museum, Nagapattinam

29.10.2001 To participate in the meeting in connection with the "Allotment of Lands to the Government Offices" conducted by the District Revenue Officer.

11.01.2002 To inspect Adalaiyur treasure-trove objects at Nagapattinam Taluk Office.

08.03.2002 To inspect Naganathaswamy Temple Car at Nagore.

31.03.2002 Accompanied the Commissioner of Museums to Tranquebar Danish Fort Museum and studied the collection and the display of artefacts there.

Thiru. C. Govindaraj,
Curator, Government Museum, Virudhunagar

01.10.2001 To Government Museum, Thirunelveli to look after
31.03.2002 the museum after assuming additional charges.

To inspect the newly found treasure-trove objects at Rajapalayam Taluk Office

To study the cave temple and the Durga sculpture at Thiruthangal

Thirumathi. S. Krishnammal.
Curator, Government Museum, Kanyakumari

19.10.2002	To study Padmanapuram Palace.
29.10.2001	To inspect Kalvizhi – Memorial stone.
01.11.2001	To inspect the stone sculptures at Marunthukottai.
27.11.2001-28.11.2001	To study Trivandrum Museum and Trivandrum Archives.
06.02.2001	To inspect memorial stone Punnarkulam.
15.02.2001	To inspect stone grinder at Marungoor.

Thiru. J. Mullaiarasu,
Curator, Government Museum,
Erode and additional charge Government Museum, Coimbatore

09.10.2001	To inspect the treasuretrove coins in the Gobi Taluk Office.
12.12.2001	To inspect the Vairamangalam treasure-trove objects in Bhavani Taluk Office.
09.01.2002	Inspection of 6 stone sculptures at Kolinjavadi village in Darapuram taluk.
22.01.2002	Inspection of stone sculptures at Vairapalayam in Erode.
23.01.2002	Inspection of 46 stone sculptures at Bargur in Bhavani taluk.
09.11.2001	To inspect the stone sculpture of Subramania swamy (Murugan) at Pollachi Taluk Office, Coimbatore district.

Thiru. T. Packirisamy,
Curator, Government Museum, Sivagangai and additional charge Government Museum, Ramanadapuram

09.01.2002	To inspect Durgai Amman sculpture and a burial urn at the Taluk Office, Thirupathur, Sivaganga district.

09.01.2002	To inspect the Lakshmi and Saraswathy brass icons at the Taluk Office, Karaikudi, Sivaganga district.
Oct-2001-Mar-2002	To Government Museum, Ramanathapuram to look after the administrative works.

Thiru. N. Sundararajan,
Curator, Government Museum, Cuddalore

29.10.2001	To inspect treasure-trove Devi sculpture at Adatharam village, Ginjee taluk, Villupuram district.
11.01.2002	To inspect sculptures in the resenic collection kept in the district Archaeological Office, Chidambaram.

Visitors

During the period October 2001 to March 2002 the number of visitors, visited the museums are furnished below including school children:

Chennai	1,46,128
Pudukkottai	48,640
Salem	7,834
Maduai	35,858
Tiruchirappalli	8,831
Vellore	28,341
Erode	3,529
Udhagamandalam	3,578
Cuddalore	4,105
Tirunelveli	9,485
Kanyakumari	3,084
Krishnagiri	3,005
Palani	11,195
Tiruvarur	13,293
Nagapattinam	4,804
Kaancheepuram	4,085
Ramanathapuram	1627
Sivagnaga	5,685
Karur	2,422
Virudhunagar	2,740

V.I.P 's Remarks :

1) By visiting Government Museum, Chennai I have got more information about Indian Cultural and Civilizations. I hope that the cultural exchanges between our two countries would be more fruitful in the future.

-Yang Linhai, Chinese Embassy,
New Delhi

2) The museum is much to be congratulated, firstly for getting such a wonderful building and secondly for beginning the programme of display. The work that has been done is very neat, clean and has clear labeling. There are interesting plans for the future, funds permitting. Warm Congratulations. All good wishes for the future. This is a delightful place to visit and should attract many others - Pudukkottai.

- Dr. Deborah Swallow
(Director of Collections) Indian & South East Asian
Department Victoria & Albert Museum, LONDON,
25th December, 2001.

3) A recently shifted museum in this palatial building is an advantage and I expect this will be one of the best museums as the years go. I was happy to visit this museum - Trichy.

- R.L.Piplani,
Secretary, Nehru Trust for the Indian Collections at the
Victoria and Albert Museum, Teen Murthy House,
New Delhi.

4) The museum has an excellent collection of various statues, fossils and other ancient collections. The Rani Mangammal Hall itself is a landmark in Tiruchi city. The museum is well maintained and attracts public from other places, including foreigners. Best wishes .

- Dr. K. Manivasan, I.A.S.,
District Collector,
Tiruchirappalli. 29thDecember 2001.

Restoring

A VISITOR to the Meenakshi Sundareswarar Temple during the last one week would not have missed a group of committed people working on two big Tanjore paintings at the Tirukkalyana Mandapam. The resurrection of these two paintings, dating back to 1926, is going on under the initiative of the Department of Museums.

These paintings, done in the traditional way by a local artist, had been gathering dust and soot on the walls of the Meenakshi shrine when R. Kannan, Commissioner of Museums, noticed them during a visit in [illegible]. When the Department of Museums decided to restore the two paintings depicting the coronation of Goddess Meenakshi and her wedding with Lord Sundareswarar, a formal proposal was submitted to the HR and CE Department. And the restoration work has taken off from May 11. On May 21, these two works will adorn the walls of the temple in all glory.

"It's a two-in-one project," says V. Jeyaraj, Curator, Chemical Conservation and Research Laboratory, Government Museum, Chennai, who is leading the restoration work. He has

Sambuvara

By Our Staff Reporter

VELLORE, APRIL 6. A stone inscription carved during the reign of Ethirili Chola Sambuvarayar, dating back to the 12th century A.D. has been discovered in a fort on the top of a hill in Pallalakuppam village in Gudiyatham taluk in Vellore district by the government museum here recently.

According to M. Gandhi, curator of the museum, the inscription has been recorded on the western gate of the fort built by Ethirili Chola Sambuvarayar, a vassal under Rajadhiraja Chola II and Kulothunga Chola III who ruled the northern part of Thondaimandalam, now comprising the districts of Vellore, Tiruvannamalai, Kancheepuram and Thiruvallur.

Ethirili Chola Sambuvarayar, hailing from the Sengeni family was the son of Sengeni Ammaiyappan Kannudaiya Perumal Vikrama Chola Sambuvarayar. His titles were Virasani, Vij[illegible] [illegible] Pallavandan.

Training on batik arts

A six day free training for both men and women on batik arts will be held at Government Museum from October 15 to 20. Those interested can contact the Curator, Government Museum, Gandhi Museum premises, Madurai. The Phone number: 650298

Training camp in epigraphy

Express News Service

Madurai, Mar 13: A short training camp on epigraphy was conducted by the Government Museum here from March 11 to 13 here.

According to a press release, 22 students from nine colleges from Madurai and Virudhunagar districts participated in the camp.

High-tech preservation

THE MADURAI Museum has initiated a new move. An elevated facelift has been given to the Government Museum. Now the archaeologists need not worry about the treasured bronze collections gathering dust.

These priceless statues are sitting pretty inside the high-tech showcases of "International standard".

The Curator, Sam Sathiraj, says the Department of Archaeology [illegible] Museum.

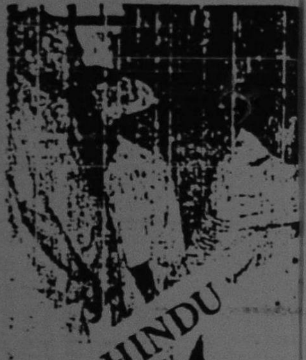
The recently installed showcases contain the 15th century idols from Cheranmahadevi near Tirunelveli, the Nataraj idol of the later Chola period and the 10th century Vishnu idol from Sowdapatti in Tirumangalam taluk.

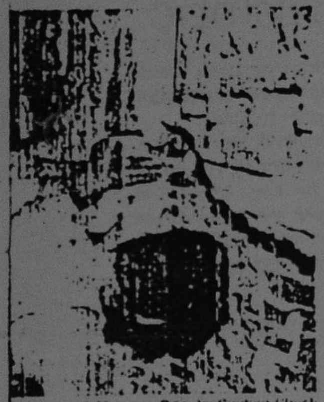
These five-feet long, seven-feet high and two-feet broad high technology showcases have 'Saint Gobain' French float glass on all four sides.

The door glass is of Germany make [illegible]

Preserving heritage for posterity

The Amaravathy Gallery at the Government Museum is being re-designed to make it more viewer-friendly. The process involves removing the priceless relics embedded in the walls without damaging them. GOUTAM GHOSH reports on the progress of the work.





Government Museum. Pics. by Goutam Ghosh

Amaravathy Gal...

THE DIN that echoed through the silent halls of the Government Museum, Chennai, was caused by a percussion drill. "We need to re-design the Amaravathy Gallery, so we have to take out the relics embedded in the wall," said R. Kannan, commissioner, Government Museum, Chennai.

The gallery has been partially closed to visitors, as the work is a priority. "The drill saves the time needed to take the relics out. Just imagine working with hammer and chisel. A single piece would take a whole day. With this drill we take out three to four pieces a day," ... Dr. Kannan for his ... to ... as the drill bit ... into the wall ... by quick ...

Holes were made in the wall around a piece at about ... intervals, and ... wider. A chisel ... then used to cut into the wall. In 20 minutes there was ... A cloud of ... red dust ... drilled ... and bricks hung in the air. The work, thereafter, was ... as the supervisor had to ensure that enthusiastic workers did not damage the relic. The stone relics were heavy and four or more persons were ready to grab each piece in case it emerged and popped out of the wall.

After cutting round a piece, one had to break it to the back and granite support behind it. With hardly any space to push the percussion drill in, the fingers suffered bruises once in a while. In a fraction of a second, the drill driver lost a patch of skin on his finger. It is a ... slow process ... Archaeology Department, ... between the ... bits to break into the wall.

Interestingly, the conventional method of using hammer and chisel ... removing ... remains ... the relic than the percussion drill ... experts ... "But ... must ... a relic from the wall," said Balasubramanian, ... of ... in charge of the gallery.

The use of power tools ... in the ... is ... Dr. Kannan's work ...

The relic is a ... 2,000 years ago. But ... have ... The ... of the Gallery ... from the Buddhist stupa of Amaravathy. It is said that the Government Museum, ... the highest ... stupa ... The better ... away to the ... and the ... behind ... British ... on display.

Of the ... are ... the wall. ... over ... have been kept ... to be ... Balasubramanian ... the museum.

The ... will be ... the displays ... without ... can admire ... than ... level and ... the stupa ... will be ...

... in distilled water to dissolve the damaging salts. The salt absorbed from the wall has begun to ruin the relics. This ... must be stopped. The absorption has happened because of rising water levels during the monsoon, which is a result of faulty road laying policy — layer on top of layer. In the West, the old layers are scraped and then the new one laid so that the road level remains unchanged. Once the salt is flushed out by repeated soaking in distilled water, the pieces will need to be treated to stop salt intrusion," said Mr. Balasubramanian.

Maybe in a year or so the displays in the Amaravathy Gallery can match the professionally managed museums across the world, but at a fraction of the expense for similar work in the West.

As it stands, the excellent work at the Government Museum, Chennai is hardly recognised. This is because in India, knowledge is not given as much importance as power.

... conservation and preservation staff of the museum would be ... abroad to learn the latest in technology. But this is not happening now. ■

Brushing economic aesthetics

THE ART of painting is given more importance than most of the schools allot a particular schedule, say, at least once a week, in their periodical time table. But what about the housewives who have buried their thirst for painting without gaining room to dabble with poster colours and brushes.

For them, to create the traditional art that originated from Tanjore (Tanjore painting) remaiden experience, they say, reminds them of the school days when they had chances to hold the brush for a scribble.

Given the option to choose the pick of the portraits of the Goddesses of wealth and learning, Lord Vinayak and Navaneetha Krishnan, the choice is for Lord Navaneetha Krishnan. Annai Velankanni and a dancing woman too have their presence in the artistic range.

Temple inscriptions on digital camera

By S.Ganesan

PUDUKOTTAI, MAY 26. A successful attempt at digital copying and computerising of inscriptions was undertaken by the State Department of Archaeology and Museums at the Brhadambal temple here.

This is probably the first time such an attempt is being made by a government agency in the country, the Commissioner of Archaeology and Museums, R.Kannan, told *The Hindu*, after supervising the exercise conducted in the presence of a group of epigraphists on Saturday.

Publications released

Six rare publications on the inscriptions and history of Pudukottai, reprinted by the State Department of Archaeology and Museums, were released on the occasion by the Commissioner of Archaeology and Museums, R.Kannan. Rani Ramadevi Tondaiman of the erstwhile Princely State of Pudukottai received the copies.

From Copenhagen with love: Historic

By R Venkataraman

Porayar, July [illegible]. The 400-year-old historic Dansborg Fort at Tranquebar, renovated with personal contributions and assistance by the Danish Queen, was rededicated to the nation by a group of prominent people from Denmark at a colourful function held on [illegible] night.

[illegible] in ruins, ered into a pact with Raghunatha Nayak, the then King of Thanjavur, to construct a fort in 1620 AD.

The town continues to retain its Danish flavour with the active interest shown by the members of Tranquebar Association in Denmark and the Danish Government which have an emotional attachment with this land where their forefathers once lived.

[illegible] said the association would take up more renovation works stage by stage.

He thanked Dr Kannan, Commissioner of Archaeology for his keen interest in preserving the monuments of Tranquebar and for personally supervising the renovation work.

Dolphin bones inspected in Gujarat

By Our Special Correspondent

CHENNAI, JULY 25. Two officials of the Chennai Museum were recently deputed to Gujarat to inspect and articulate the bones of a Dugong and a Dolphin acquired by the department of Forests in the western State.

The skeletal parts of both the specimens were macerated and placed on tables in the Gujarat Forest department's museum. The skull, lower jaw bones, neck vertebrae, other vertebral bones and rib bones were collected but all the flipper bones were missing.

With the available bones, the skeletons of Dugong and Dolphin were articulated and displayed in the museum, an official release issued by the Commissioner of Government Museums said, adding that P. Jawahar, Curator of the Zoology section, and P. Balaraman, taxidermist, visited Gujarat for the purpose.

Sperm whale bones can be displayed, say museum officials

By Our Special Correspondent

CHENNAI, JUNE 20. Two officials of the Chennai Government Museum were recently sent to Andhra Pradesh for assessment of articulation and display of the bones of a sperm whale acquired by the CSR Sarma College, Ongole.

As most of the bones were [illegible]

ARTICLES

MUSEUMS, SCENOGRAPHY AND TOURIST ATTRACTIONS

Dr.R.Kannan, Ph.D., I.A.S.
Commissioner of Museums,
Government Museum, Chennai -8.

This paper outlines how museums have to compete with pure entertainment attractions like amusement parks for visitors. This was not the position in the past, when the usual tourist attractions were only museums and zoos. Museums were inwardly oriented and felt that their only duty was to collect and preserve antiquities, while entry was free. Now they have to find a place in the market spectrum as educational entertainers while charging entry fee in order to attract visitors, local and tourists. How they use new display techniques to market viewing of their collections like scenography (simulating nature or themes as backdrop), interactive display, virtual reality etc to make themselves a magnet for visitors is discussed with illustrations with special reference to history museums mostly from India. It concludes that while information technology may be able to move images of the objects and information on them over large distances, still the need to see and feel objects is indispensable. Therefore, museums are likely to reinvent themselves and remain relevant for a long time to come.

Introduction

Tamil Nadu is the cradle of civilisation of the world. Its rich artistic and cultural heritage has attracted traders and foreign visitors through the ages. Foreign visitors who paid visits in the past like the Chinese traveller Huien Sang have written extensively about it. It has many old towns and cities like Chennai, Madurai, Tanjore, Kanchipuram, Mamallapuram (Mahabalipuram) etc. Culture consisting of heritage monuments, museums, performing arts and also nature especially its beaches have been major tourist attractions. Now, sanctuaries and amusement parks have also become a major draw.

Amusement parks are coming up in large numbers these days. Even though the entry fee is very high, visitor traffic to

such parks is increasing day by day. Tourists flock to them. But they do not offer educational entertainment like museums. The more educated classes and older folk, therefore, still visit museums.

Museums largely attract tourists as visitors. With rising incomes and leisure, people are looking for entertainment. They are flexible enough to go to a place, which offers education or entertainment. A minuscule percentage is however serious scholars who use the practical knowledge available there like sculptures, specimens etc.

There is a sea change from the 16th Century concept of museums as a place where valuable antiquities are safely stored to the present day where museums have to aggressively woo visitors by imaginative and interactive new display and outreach activities that take the museum to the community. In these days of tight budgets, museums depend on visitors, especially inland and foreign tourists for their sustenance.

Hudson feels that a museum has to deliver value to a customer by its display and the courteous attitude of the staff (Hudson K., 1985, p. 8). Museum visitors are comparing them with other attractions and expecting international standards. Museums, these days, have also to compete with other interactive audio-visual media like television, computer games and the Internet for patronage from the public. Special exhibitions on some themes like "Tipu Sultan" or Folk Arts are held to attract visitors. These make the display to keep changing. Exciting interactive display techniques like the use of scenography hold the key to attracting visitor traffic. The collections especially in history museums do not lend themselves so easily to interactivity with visitors as in science museums.

The Department of Archaeology and Museums, Government of Tamilnadu, India has one huge central museum called the Government Museum, Chennai (Madras) and 38 district and site museums. The museums are predominantly archaeology and art history museums, though they are multi-disciplinary with science sections also.

In this short presentation, we shall see the need for scenography and innovative display techniques for making the collections of museums especially history museums, attract visitor traffic and remain a prime attraction for tourists as in the past. The experiences in India especially those of the Government Museum, Chennai are used to illustrate the points made.

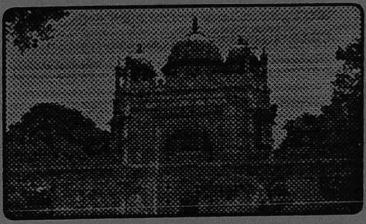
Change in the Concept of Museums

Dr. Samuel Johnson's Dictionary (1755) defines a Museum as – "a repository of learned curiosities". The declaration made in the Copenhagen 10th General Conference of the International Council of Museums stated that a museum "is a non-profit making permanent institution, in the service of society and its development and open to the public for the purpose of study, education and enjoyment". A short modern definition would be 'a Museum is a Service provider for the spread of Knowledge' (Kannan Dr. R., 2001).

The concept of museums has changed radically from functioning as mere storehouses of antiquities with the Curators functioning as their custodians. Curators have to change from their inward orientation to their collections to look outward to their customers, their need for education and entertainment (Middleton Victor C., 1985, p. 17). Now the role of museums is to 'entertain while educating'. The non-profit orientation has also been challenged by some museums like Guggenheim. For them, museums have to create surplus to survive, renovate and grow just like businesses. These changes have occurred mainly in developed countries especially, the USA and to a lesser extent in Europe and U.K. The private Iron Bridge Gorge Museum, England shows a drop in visitor numbers in the 1990s (Swarbrooke John, 1999, p.334). This is a problem when museums are priced and have to compete with television and other pure entertainment attractions like cinemas or theme parks. Museums have to monitor visitor reactions continuously to update their display, if they are to continue to attract visitor traffic ((Middleton Victor C., 1985, p. 25). In India, change is slower but surely, museums cannot remain static. Or they will meet the fate of the dinosaur.

Museums vis-à-vis Amusement Parks

Museums like other tourist attractions can be classified by catchment area as local, regional, national or international depending on from where the visitors come from. The Louvre or the Government Museum, Chennai are international – their visitors come from all over the world (Swarbrooke John, 1999, pp.10-11). The number in India is more due to the size of the population but revenue is low. The population of India is still young and therefore the competition from theme parks and entertainment attractions is high, while the demographic change to mature populations in Europe may mean a swing to museums which are perceived as more educational than mere frivolous entertainment (Swarbrooke John, 1999, p.54). For foreign tourists, who are mostly culture tourists, a museum visit remains a must.



National Art Gallery

It has been found by market research that museums were more popular with the age group 25-54 and had a higher upper class patronage (Swarbrooke John, 1999, p.79). Segmentation of the market according to the category of visitors and tailoring plans and strategies to suit the different segments is necessary, if a museum is to succeed. A government museum cannot deny access to any class of visitors but we raised rates to cater to a higher-class segment (Kannan Dr. R., 2002). In the Government Museum, Chennai we have half a million visitors every year. Our market niche is safe. The problem of competing for visitors is not very acute.

Historic Sites and Monuments

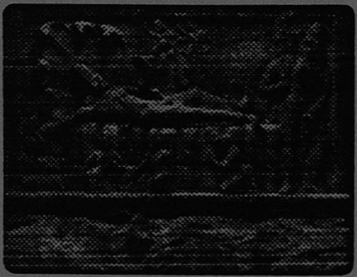
Historic sites and monuments give a real feel of the place. They can be placed midway between amusement parks and museums in the tourism market. Now - a - days they have son-et-lumière shows

The Century old Museum Theatre

which make the tourists relive the past and make them participate in the landmark events of history. Use of the latest virtual reality audio—visual techniques like wide screens etc in some cases make the viewers a part of the recreated historical scene, for example a battle scene etc. Golkonda Fort, Hyderabad, Red Fort, Delhi, Tirumalai Naicker Mahal, Madurai have excellent son-et-lumière shows. We have not come to the stage of creating mock ups of past scenes with costumed actors as in Warwick Castle, England etc. However, the pollution caused by littering, graffiti etc damage the sensitive monuments and sites. I found plastic litter in Bhimbetka near Bhopal, one of the greatest rock art sites in the world. A balance has to be struck between heritage tourism and damage to the buildings (Herbert David T., 1997, p.213). This is more so in the case of thickly populated countries like India, where poverty and lack of civic consciousness usually go together. Most of the buildings housing the Chennai museum like the National Art Gallery and Museum Theatre are themselves heritage buildings. Similar is the case with several district museums. These buildings also attract visitors. We plan to conserve these buildings while building in infrastructure to cope with 21st Century museum display requirements

Scenography

Scenography is the design of the visual environment as an integral constituent of the display. This term is used usually in theatre for the design of the set (Reid Francis, 1996, p.99). Use is made of colour, shape and space to convey ideas and a story though the means and materials may be inexpensive (Howard Pamela, 2001). This idiom is adapted in museums for their display especially in Diorama and Thematic displays. It is being increasingly used in order to attract visitors to museums, as an answer to the audio-visual onslaught by competing



Rock and Cave Art Gallery - Simulated display of Mahabalipuram bas relief cave sculputres - Seshasayi

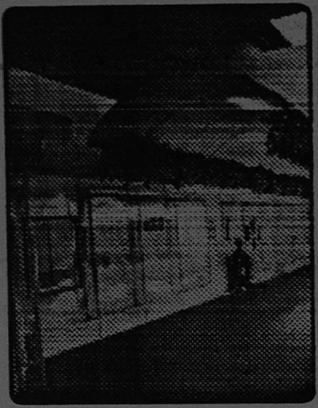
attractions. For instance, the Museum for Peace, France claims in its Web Site that it uses original scenography and modern technology to display the history of the 20th Century. We have to use these changes imaginatively for taking museums to the people so that they continue to be relevant for educational entertainment. They must remain a 'must see' for tourists to any city. The privately owned Kerala History Museum at Cochin uses models, sound and light along with each frame to depict a landmark event as a scene from the history of Kerala. This is a great success. However, the technology is slightly dated. Still it simulates the atmosphere and scene of the event in the closed space of a museum gallery. In the Government Museum, Chennai, dioramas have been increased to a huge size this year (2002) with the backdrop being computer generated photo-prints of real scenes lit with the latest lighting to make the visitor experience virtual reality.

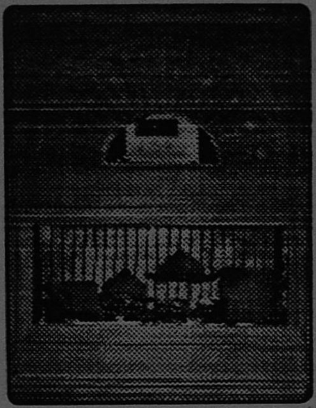
A Scene from the Kerala History Museum - The Maharajah of Travancore and Padmanabhaswami Temple, Trivandrum, Kerala

Dynamic Use of Collections for Educational Entertainment

Museum displays should interest the scholar and lay visitor equally. Otherwise they would not generate visitor traffic (Miles R.S. et. al, 1988, p.3). Successful attractions are based on a novel idea for exploiting the collections (Swarbrooke John, 1999,p.114). In India, the exhibition of crown jewels in the Hill Palace Museum near Cochin or the Nizam of Hyderabad's jewels in the Salar Jung Museum at Hyderabad is based on an idea, which is novel to that area

A view of the Fibre Optic lit painting gallery





Display of Nizam's jewels - Salar Jung Museum

Dinosaur's gallery - Salt Lake

Raja Ravi Varma painting
lit by Optical Fibre lights

The new Dinosaur gallery in the Science Museum, Salt Lake, Calcutta with moving models, sound and light is an instance of such a novel idea attracting large crowds.

The display of the paintings of Raja Ravi Varma in Fibre Optic lit showcases is another instance of old static collections generating visitor interest by their new display. The Rock and Cave Art Gallery of our museum simulates the atmosphere of the caves of the pre-historic and historic periods using the latest technology. In the Government Museum, Chennai there are

interactive models in the Children's Gallery, which attract children and adults alike. These objects entertain while they educate the public about themselves and their field of knowledge.

Science museums like the Birla Science Museum at Hyderabad lend themselves to interactive display more than history museums.

We have tried to introduce interaction through visitor activated son-et-lumière display in our new Rock and Cave Art Gallery.

New Techniques of Display

New techniques of display like interactive display of objects, thematic exhibitions as seen above in scenography are going to be the in-thing. They alone can attract and sustain visitor interest. Exhibits are being made participatory and often have animations in them.

Contemporary Paintings lit by Dichroic Halogen

Museums with touch screen, audio-visual displays etc are more visited than those with static old display.

New international standard showcases designed by ourselves - Cassowary bird

Visitors are attracted only when objects like animals are displayed in their own environment. Dioramas are another method of simulating reality especially when displaying animals in their natural habitat.

We have used the management technique of Clean Break in the design of showcases and galleries this year in our museum.

The 1960s design has been changed radically. We have several technology demonstrators in the Government Museum,

Chennai, which have been replicated in some district museums also. We have replicated, with suitable modifications to suit Indian conditions, showcase design used in European museums. This is largely, to be immodest, due to the management orientation of the Commissioner. Fibre Optic and Dichroic Halogen lighting, Visual Storage of paintings and Modular Storage of sculptures on the lines of the British Museums have been introduced. Dioramas have been increased to a huge size of 12 feet by 6 feet. Vinyl computer generated prints with the latest lighting make the visitor feel that he has been transported to the actual scene. A Holographic Gallery to display holograms of bronzes and other rare artefacts has been planned. In the Gallery for Rock and Cave Art (pre-historic and historic periods), we have simulated the natural atmosphere of the caves. We have used interactive display techniques like son-et-lumière, Touch Screen and Translides to stimulate visitor interest. The son-et-lumière is activated by the visitor himself / herself. This is based on Infra-red ray technology. Simulation and informative labels provide a feeling of having really visited the cave sites. Many of these techniques are a first for India.

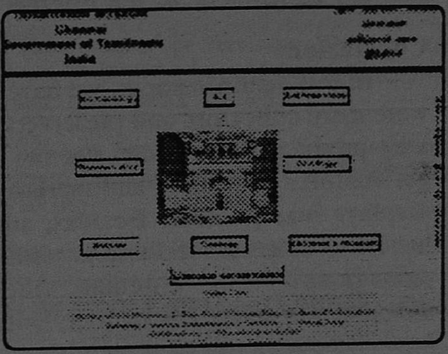
New International standard showcases designed by ourselves - Natraja bronze

New world class 12 foot size Diorama of Tapir-with background computer scanned and vinyl printed

Visual Storage of paintings

Web Site

Our Web site went on line on 18-12-2001. It uses an Optical Carrier Band – III (OCB-3) Server based in USA, one of the fastest in the world. It contains 1400 pages of A-4 size corresponding to 122 Megabytes of electronic size. Chennaimuseum.org is one of the largest web sites in the museum world. We have not held much back but displayed all our best pieces like our rare stone and bronze sculptures, paintings etc on the web.



Home page of the Web Site

In addition to the Web site, we have used information technology for e-mail, scanning and storing of photographs on computer, used these scanned photographs and appropriate software for publications, digital photography and for digitising the Accession Register in respect of the important 'AA' and 'A' grade objects.

Opening the Galleries to New Activities

Foreign museums even host concerts in the galleries as was done in Edinburgh (Stewart Allan, 1985, p.96). In the Government Museum, Chennai, we had recently a National Folk Arts Festival performed in our open-air theatre. This brought in extra foreign tourist traffic. We are still conservative and do not open our galleries to extraneous activities for fear of damage to the artefacts.

Has the New Technology made Original Physical Objects of Art Obsolete?

Museums are the only institutions that collect and preserve the original objects for posterity while still displaying them innovatively. When the antique is lost or damaged, all is lost.

Nothing can replace the sight and feel of the original object. Everything else is Virtual Reality i.e. illusion or Maya as we call this physical world in Indian Advaita philosophy. This shows that the attachment to the original objects still remains.

Conclusion

In this seminar paper, we have seen how in the past museums were mere collectors and preservers of artefacts with display being a by-product. Since there was not much competition, they could get visitors, both local and tourists, though the orientation of the displays was passive. Besides, admission was free. Now, they have to compete for visitors with other tourist attractions like amusement parks, cinemas, video game parlours etc, while charging for entry. Interactivity with their visitors is the key, the new attractions use to draw visitors. Museums have also changed to a customer oriented outward approach in order to maintain their position as popular visit spots. They educate while entertaining. They try to cater to the market segment, which has a taste for knowledge but also wants to learn. They have used scenography to simulate reality such as heritage monuments, events etc. Thematic displays, dioramas, use of information technology, interactive displays etc are some of the other methods of display used to attract and sustain visitor interest. They also impart useful knowledge. This has enabled them to compete with heritage attractions with their attractive displays, but which cater to a similar market segment as museums, especially history museums. Museums are, of course, easier of access for tourists in a hurry. In India, our population ensures that visitor numbers do not decline. Foreign tourists are mainly here to savour Indian culture. Therefore, they do not miss to visit museums. Finally, though new technologies like virtual museums and so on may bring images to the living room, nothing can substitute for the sight and feel of real objects in the human mind. The 'Real Thing' always gives a thrill that can have no comparison. Museums are the only places that collect, preserve and even attractively display reality i.e. objects. Therefore, given the capacity for adaptability of museums, they are bound to stay with our society forever. The wise believe that :

'One touch of the Vernal wood can teach you more of man than all the sages can' - Wordsworth.

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MANAGING CHANGE IN THE MUSEUM PROFESSION

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Professionalism represents the qualities typical of a profession. In India, it is loosely used as an equivalent for specialisation. In this paper, we see how the term professionalism has come to mean Normal Professionalism, which replicates the past and how change is inevitable in any field.

We analyse how the concept of museums has changed from its emphasis on collection and preservation of antiquities in the 16th Century to the present aggressive wooing of visitor traffic. Rapid technological change has also resulted in quick obsolescence of design and display techniques. Interactive displays are now designed to sustain visitor interest. Information Technology has brought in virtual museums to the home on the We. It, is used in documentation, security etc.

Museums were mostly funded by government. There has been a big change to self-financing in USA and Europe. This change has also started affecting India. Museums have to fund the increased cost of new displays and changing the old displays frequently.

The paper advocates managing change using Participatory Approaches to replace the Normal approach. Participation reduces the anxiety factor to a large extent and resistance to change. It narrates how change is being managed in the Department of Archaeology and Museums, Government of Tamilnadu. Some of the visible physical manifestations of change, which can be seen in the Chennai and other museums are use of hi-tech technology in lighting, storage, design and display of artefacts, creation of web site, electronic documentation of artefacts, palm leaf manuscripts etc.

The Committee is the device used to achieve Participation. Committees ensure sharing of information and transparency. The changes are owned by the people involved in the change.

The basic philosophy of spreading resources thin resulting in accepting Second - Best has been replaced by the new philosophy of concentrated application of resources for achieving the Best. The real change is the Mental Revolution or Attitudinal Change in the personnel.

Introduction

Professionalism is defined as the qualities typical of a profession. Profession is in turn defined as vocation. If it calls for advanced learning like law or medicine, it is a learned profession. It is now loosely used as an equivalent for specialisation in Indian journalistic parlance. In this paper, we analyse how the term professionalsim has come to mean Normal Professionalism, how change is inevitable in any field, how to manage change using Participatory Approaches which replace the Normal approach without compromising on basic values. A clean break with the past is sometimes forced or created by circumstances.

There is a sea change from the 16th Century concept of museums of a place where valuable antiquites are safely stored to the present day where museums aggressively woo visitors by imaginative and interactive new display and outreach activites that take the musuem to the community. The museum profession has to take note of this change brought about among other things by new technology. It has to use these changes imaginatively for taking the museum to the people so that they continue to be relevant for educational enteratinment. They must remain a 'must see' for tourists to any city.

In the Government Musuem, Chennai use of new technology based on the power of the computer and more important training of the staff on this technology so that every one uses it has been a very important part of the change. We have used this technology for e-mail, scanning and storing of photographs on computer, use of these photographs and appropriate software for publications, digital photography, creating a web site and

digitising the Accession Register in respect of the important 'AA' and 'A' grade objects. New types of displays based on replicating international designs of showcases, modern lighting like Fibre Optics and Dichroic Halogen, Holographic gallery, interactive Touch screen display, luminescent slide screens and the prescription of internationl standards for material used in the display showcases are another part of the change that has taken place. These are physical manifestations of the mental change from blindly repeating what was done in the past to thinking afresh. These are radical changes in the staid world of museums.

The creation and management of change also extends to the 20 district museums under the Department of Museums and 17 site museums under the State Department of Archaeology. The two departments have been merged under one Commissioner recently in order to have a holistic approach, which will create synergy.

We analyse how a participative approach, which had to combined with the conventional Top-Down management approach has been used in the Government Museum, Chennai to bring about a vast change within the limitations of a governemnt milieu. Practices from other musems have been also cited in order to analyse how they have managed change or blazed new trails. This is in keeping with the PRA approach of learning with and from others (Chambers, 1993).

Normal Professionalism

As a Participatory Rural Appraisal (PRA) professional or practitioner, we feel that every profession has its own set of theories, beliefs and practices. Especially in the learned professions, theories and practices are learnt in the classroom and in the field and handed down from generation to generation. This Blueprint approach is based on what Chambers calls Normal Professionalism. It has as its philosophy that other people are ignorant and the professionals know everything-"we know, they don't know"(Chambers R., 1992(1), pp.31-33).

The Participatory Approach (Participatory Rural Appraisal approach)

Using the services of learned professionals to solve problems using modern technology in consultation with the people who use the services in a spirit of sharing, is advocated in the PRA approach. The people (museum goers) become equals in 'the process of development' (Rajkumar et.al, 1995, pages 3 & 6). Thus PRA has travelled from the rural scenario to other fields.

In the PRA approach, "EMBRACE ERROR" is repeatedly stressed by Chambers (1992(2), p.15) in contrast to the Normal Professionals who like to hide their mistakes under a cloak of technical jargon. This is a major departure from the Normal approach.

The approach is to learn with and from others – i.e. the organisation becomes a learning organisation instead of a smug self-satisfied one Chambers (1995, p.28-33). This smugness is characteristic of Normal Professionalism. History teaches us that people like the Bourbons, who neither learned nor unlearned , are swept away by the tide of time.

Change in the concept of museums

Dr. Samuel Johnson's Dictionary (1755) defines a Museum as – "a Repository of learned curiosities". The declaration made in the Copenhagen 10th General Conference of the International Council of Museums stated that a museum "is a non-profit making permanent institution, in the service of Society and its development and open to the public for the purpose of study, education and enjoyment". A modern definition would be 'a Museum is a Service provider for the spread of Knowledge' (Kannan Dr.R., 2001).

The concept of museums has changed radically from functioning as mere storehouses of antiquities with the Curators functioning as their custodians. Now the role of Museums is to 'entertain while educating'. The non-profit orientation has also been challenged by some museums like Guggenheim as shown below. For them, museums have to create surplus to survive, renovate and grow just like businesses. Only they have not still become so commercial as to expect a dividend declaration for their owners. Museums do not wait for people to come as seen above. They go to the people. These changes have occurred

mainly in developed countries especially, the USA and to a lesser extent in Europe and U.K. In India, change is slower but surely, we cannot remain static. Or we will meet the fate of the dinosaur.

MANAGING CHANGE IN MUSEUM MANAGEMNT

These are days of fast moving change driven by new technology and new concepts of the mission of museums. In my paper on Museum Management (Kannan Dr. R., 2001), I had analysed the change in the marketing of museums from waiting for visitors to walk in to aggressive wooing of visitors to make them come in. Segmentation of visitors to woo selectively the more affluent who would spend more on buying publications, souvenirs and thereby generate more funds for the museums is part of this new approach. This is the Segmented Marketing approach. This is not to suggest that the museums neglect the under privileged or block access to them. In fact, a part of the funds generated by the new approach is used to subsidise access to the underprivileged. They would not have such a quality of museum services like interactive and attractive displays, lectures and publications otherwise.

There was an article with an expressive title 'Marketing Museums – When merchants enter the temple' in the Economist (April, 2001). The head of the Guggenheim Museum, New York Mr.Thomas Krens has put up an exhibition of motorcycles on behalf of a German manufacturer and an exhibition of Italian fashion designer Giorgio Armani's clothes complete with a fashion show and cat walk to attract crowds and money. He has also several branches like a multi-national company in Berlin and Bilbao, Spain. These methods are severely criticised by the Director of The Metropolitan Museum of Art, New York Phillipe de Montebello, who is a traditionalist. He lampoons these methods as 'museums do not do Disney that well'.

Finance

'Money makes the mare to go' is an old adage. No organisation can have any activity without financial resources (Kannan Dr. R, 2000). In the past museums were funded fully for their activities and staff salaries by the government. This was government, the 'Great Provider' (Curtis Donald, 1993). In the

last decade, this source has been replaced by the Self-Supporting Autonomous Funds generation model. The article cited above (Economist, April, 2001) narrates how state funding for museums has dried up. Mr. Krens of the Guggenheim Museum has started a section of staff whose sole purpose is to attract funding. Other museums have adopted this model in the USA. The museums in Britain are under less pressure like us in India, who mostly follow British systems. But they are also adept at getting sponsorships like the recent controversial funding of the Millennium dome and the Tate Gallery by business. The change has resulted in there being two Directors for the British Museum, one who is a traditional museum professional in his mid-fifties and the other a marketing cum finance M.B.A. in her mid-thirties from the City of London, the financial hub. This is thus affecting the traditional way of managing museums radically. Museums in India are not affected so far. Their management has come from persons who have risen from the ranks of curators, academicians or the civil service. All these share the same Old World ethos of shunning commercialism. But would they sustain in the new environment? I find that the National Museum has attracted sponsors for special exhibitions like the recent one of Picasso's works. In the Government Museum, Chennai we have had private participation by way of lending exhibits as in the recent special exhibition on Stone Conservation. A Museum Publication Fund has been created, which can accept private donations and acts as a revolving fund for funding new books and reprints.It has started attracting funding.

We have raised admission rates. This has not reduced visitor traffic much but generated a lot of revenue. This has also enabled us to cater to a better market segment. Our revenue for Chennai museum alone has gone up from Rs.13 lakhs in the whole of 2001 to Rs.16 lakhs for the 1st quarter of 2002 alone.

We have used the Participative approach while making these changes. We have a long way to travel. The atmosphere in India is easily vitiated by false allegations. This makes us take one step backward every time we take two steps forward. Naturally, the rate of growth is what Prof.K.N.Raj, the leading economist

called 'the Hindu rate – 3% per annum' when he expressed his impatience with the slow growth of our economy.

Change in Management Practices

In the Government Museum, Chennai a typical Top-Down hierarchical approach used to prevail. This is not meant as a criticism since this management culture is still prevalent in many organisations even in the private sector. In order to introduce a Participatory Approach, committees for planning and implementing new projects were introduced. We now see below how we have tried to manage change in the Government Museum, Chennai and in the district museums managed by the Department of Museums. We also shall see how change has been introduced in the site museums under the Department of Archaeology.

Participation through the Committee approach

Participation by setting up committees involving academicians like IIT Professors and even some top class suppliers, who help to draw up specifications by contributing their knowledge, is a key feature in the Department of Archaeology and Museums. There is free interaction at the Committee meetings between the Curators, Engineers of the Archaeology Department, Archaeologists, ministerial staff, suppliers and academia. This free atmosphere is made possible because there is total transparency in procurement. There is not even a whisper of kickbacks. This approach also ensures spread of the new knowledge among all sections. This also creates synergy.

This approach was to avoid the usual spree of allegations when new projects involving money outlay were taken up. This has succeeded to a certain extent, though knowledge of procedures in tenders etc has to be contributed by the Commissioner, who is a finance expert. This Top-Down contribution can be taken as the minimal knowledge input and guidance expected of Top management.

It is found in practice that radical new ideas like new international showcase design, new lighting design, new concepts of management like privatising janitorial services or security do

not come out of these committees. This is due to the influence of Normal Professionalism that we have seen above. This stifles new ideas by undue scepticism. Nothing dared nothing gained. But they help to create ownership of new ideas.

Management Information System

The Chennai Government Museum Journal though revived as a means of sharing news and information among scholars and the museum fraternity has become a tool of Management Information, since the work performed in each section by every Curator, the District Curators and even those with administrative duties like the Assistant Director and the Commissioner is reflected in it.

Introducing change in a non-threatening manner

In the Government Museum, Chennai we have tried to introduce change without making it a perceived threat for any section of the staff. This is the only way change can be brought about in a government department. Otherwise, the person introducing the change along with his/her concepts will be rejected and thrown out. In this context, a Participative Approach appeals more as most of the people are taken on board. This approach was mostly used, since this writer is also a PRA professional. However, with some obstructionists, limited Top-Down conventional mild threats, comparison with the better performing colleagues and withholding of the limited incentives available like travel grants had to be made. This was most painful for a PRA professional. But normal management techniques have to be used to some extent if better performers are not to feel that there is no difference between a performer and a shirker. The cumulative effect of the changes is drastic, but each change is incremental. Little droplets the ocean makes.

Government Museum, Chennai – an introduction

The Government Museum, Chennai started in 1851 AD is one of the oldest multi disciplinary museums in India. It has collection sections dealing with Archaeology, Art, Anthropology, Botany, Geology, Philately, Numismatics, Zoology, and a Children's Gallery. In addition to the above-mentioned sections, the Museum also has service sections like Design and Display,

Education and Chemical Conservation and Research Laboratory.

Some of the changes like having a Mission Statement, splitting the Core and Non-Core activities and contracting them out have been narrated last year (Kannan Dr. R., 2001). These are privatisation of security, janitorial services, modelling, making of gallery showcases and display and even some office functions. Some of the changes introduced this year are narrated below:

Changes in Display

The Government Museum, Chennai has more than 45 Galleries. The display in some of the Galleries is more than a century old. They were displayed using the best 19th century and early 20th century British techniques, since museum Superintendents were British who used to go on furlough to England. These are in need of renovation.

Clean Break in design of showcases and galleries

Curators were motivated to think about contemporary showcase and display techniques in foreign Museums. Otherwise, the tendency was to replicate the design developed in the 1960s. Some were sceptical. They were asked to think about new techniques in brain-storming sessions. New ideas were introduced by the Commissioner. They were allowed to take root for some time.

Record Allocation of Funds in the Financial Year 2001-2002 AD

Under the Part II scheme in the state budget in the financial year 2001-2002, the Government sanctioned an amount of Rs.62 Lakhs, the highest in a year in the history of the museum. This was for modernisation of galleries, setting up a new Rock Art Gallery, republication of rare old publications of the museums which have gone out of stock, new world class brochures and new books etc.

NEW TECHNIQUES OF DISPLAY

Lighting

Fibre Optic and Dichroic Halogen Lighting

Last year, after discussions among the Curators concerned,

the Commissioner, the young Assistant Engineer, Public Works Department and lighting engineers from Multi National companies, we were able to introduce Fibre Optic lighting and Dichroic Halogen lamps in the place of conventional fluorescent tube lights in the Contemporary Art Gallery and the National Art Gallery. This is the First Indian Museum wherein this technology has been introduced. This lighting eliminates heat, Infra Red and Ultra Violet radiation. Both create a dramatic visual effect. The design and debottlenecking of technological problems was done in a participatory manner. This led to a team approach with all the parties owning the project. This led to successful commissioning despite several initial problems. There was no mutual recrimination or passing the buck so characteristic of conventional Top-Down management styles.

Storage

New storage methods like Visual Storage of paintings and Modular Storage of sculptures on the lines of the British Museums have been introduced. This was a result of the Curators having visited London on a scholarship. On return, they were made to show the photographs of storage in the British Museum. From the Photographs, the new methods were replicated. Design specifications were drawn up by the Commissioner and the Curator for Design and Display visiting the Bureau of Indian Standards and the British Council Library. Tender specifications stated exact Indian Standard or British or Euro Standard Numbers for components. Here, the industrial experience of the Commissioner helped. Paintings, which were stored in simple manner in the past, have been arranged in a new method of storage cum display. The advantages are visual display of even the reserve collection besides avoiding scratching and damage. In the case of modular design, unlike in the usual rigid structure, sculptures and objects of different sizes and weights can be accommodated.

Holographic Gallery

A gallery to display holograms of bronzes and other rare artefacts has been planned. Though the money was paid to Anna University of Technology for the project two years ago, delivery of holograms has not yet started. This is due to the problems in

the laser gun imported from Germany. The Professor is trying his best to make and deliver the holograms. He has succeeded in making small sizes only. This shows that when new technology is introduced, there must be sufficient patience and stoicism to accept initial problems in mastering the new technology. This patience led to success in the use of Dichroic Halogen lighting. In this country, alarm bells are hastily sounded by ill-informed persons. This is one of the reasons for the poor rate of new technology adoption in this country.

Rock and Cave Art Gallery

A gallery for Rock and Cave Art Gallery (pre-historic and historic period) in the Contemporary Art Gallery building has been set up at a cost of Rs.20 Lakhs under Part II of the Plan budget for the year 2001-2002. New display techniques have been introduced in this work. Prior to the formation of Rock Art Gallery, the Commissioner of Museums has formed a committee to collect data regarding rock art work. The committee of Curators along with the Commissioner of Museums visited rock art sites in Bhopal (Bhimbetka and Museum of Man) and the Rock Art Society in Agra and collected information regarding rock art works.

Next to the collection of information a Design Tender was called for this work. In the design tender three options were given.

1. Design Tender could be displayed as a virtual tour so that the committee could see the proposed gallery in the computer.

2. A miniature 3D model of the rock art Gallery might be produced

3. Diagrammatic Representation may be produced.

All 3 types of tenders were received. Out of this, the committee chose diagrammatic representation, since it reflected best what the committee desired to have in the gallery. Based on this design, an open Tender was floated and the Tender was finalised by the committee. The results were also published. The successful Tender was asked to finish the work within a specified time.

This gallery has a walk through Diorama for a length of approximately 1000-sq. ft. and 3 individual caves of small size. Prehistoric rock art paintings reproduced on fibreglass rock structure are illuminated by Dichroic halogen lamps. A series of real rock-like caves will have bas- relief sculpture models of those found in the caves of Pudukottai district. Three-dimensional models of Mandapams and sculptures have also been displayed. A Touch Screen exhibition on Rock and Cave Art and a series of luminous translide shows are some of the highlights of this gallery. All the caves and other structures are interlinked by a son-et-lumière programme. The entire rocklike structures have been created in fibreglass material and all the materials and even the screws products with mostly British, Euro and in a few cases Indian standard certification.

Showcases conforming to the latest international standards

The Commissioner saw a catalogue of showcases from an international supplier. He suggested a clean break with past technology by adopting this design. The showcases were prohibitively expensive. Indian suppliers who used this type of cutting edge technology were contacted by the Design and Display Curator and a few other Curators, who were formed into a Committee for this purpose. The Curators and the Commissioner went to the shops selling imported hardware, the Bureau of Indian Standards and the British Council. The Commissioner used the opportunity as a member of a Committee of the Indian Institute of Technology to discuss and contact such hi-tech suppliers. After discussions, the specifications were drawn up. The hi-tech showcases have the following specifications:

1. They have float glass on all sides – to ensure total visibility and excellent looks.

2. They will be lit by Dichroic Halogen Lamps with electronic transformers. In Diorama showcases, white, yellow and sky blue coloured tubelights appropriate to the background have been prescribed by the lighting engineer of an MNC. They are tru-lights, which are brighter than the ordinary tubelights. For uniform diffused lighting, 0-40 grade translucent acrylic sheets have been used.

3. They will open using Glass to Glass hinges, which are imported with BS or Euro Standards with numbers. There are no Indian models.

4. For electrical work and fittings superior quality is ensured by prescribing IS and BS Standards with numbers.

5. All metal parts used are stainless steel, Aluminium or anodised steel.

6. The base panels of the showcases are made by MDF Marine plywood or anodised metal with IS/BS standards and certificate.

7. Air vents at the bottom to let in outside air and a small exhaust fan have been provided. Otherwise, the glass will break due to heating of the air by the lamps.

8. Silica Gel bags have been provided in a compartment at the bottom to de-humidify the air, since humidity is high in Chennai.

9. In Diorama showcases, photographs on vinyl will be used. This will simulate reality as can be seen in some advertisements. The sizes of the showcases have been changed from the usual 6ft height to 8 ft and 6 ft depth to 12 ft. height and 10 ft. breadth mega size to make it look real. Hylam sheets are used instead of conventional plywood for durability and avoiding emanation of harmful gases. Yellow Tru-lights give a pleasing lighting effect.

An amount of Rs.5.35 Lakhs was sanctioned under Part II Plan for the year 2001-2002. The allocation of showcases is 8 Showcases for Government Museum, Chennai, 3 showcases for Government Museum, Madurai and 2 Showcases for the Site Museum of the State Archaeology Department, Gangaikondacholapuram. The last is a case of synergy at work, since the merger of the departments of museums and archaeology under one Commissioner enabled the common use of new technology.

Children's Museum

The Ground floor Dolls gallery of the Children's Museum has been reorganized at a cost of Rs.5.00lakhs in the financial year 2001-2002 AD. The existing gallery was having wooden showcases and due to heavy moisture content in that area the showcases did not last long. To give a new look to the display, the showcases have been were made with Aluminium frames and zinc sheets cover the back instead of plywood. New labelling techniques have been used in this gallery

CHANGE IN THE BASIC PHILOSOPHY OF THE DEPARTMENT OF MUSEUMS

The accent has changed from quantity with which we are usually pre-occupied in India to quality. There is a conscious decision to concentrate resources to achieve the Best and not spread them thin resulting in Second-Best.

District Museums

There are 20 District museums under the control of the Department of Museums. They range from very big museums like Pudukottai to smaller ones started in each district to cater to the local people. Some of them like those at Kanyakumari or Ooty have a lot of tourist traffic. The impulses of modernisation are reaching these museums through close interaction of the Curators with those in the Chennai Museum and also by central fiat. For instance, the hi-tech showcases seen above have been ordered for the Madurai museum. In addition, galleries to show the local flavour like a gallery to house the memorabilia of the erstwhile Travancore royal dynasty and kingdom have been set up at Kanyakumari. It is also proposed to consolidate them into 8 or 9 big regional museums rather than have small district museums. This is a change in philosophy from the something for everybody approach of the past to having a big impact by concentrating resources. This enables those in districts to have access to the Best rather than Second-Best, which was the result of the old approach.

Site Museums

The Department of Archaeology has 17 site museums. These were set up at places where important excavations had taken

place in the past. They continued due to inertia mainly as a staff oriented scheme. Some of them have displays, which can at best be called as exposing to public view. Budgets for even lighting are inadequate. The senior level archaeologists were consulted and staff assured that no retrenchment would take place. They are now proposed to be consolidated in to 9 museums. These would be at places like the Tirumalai Naicker Mahal at Madurai, Ramalinga Vilasom Palace at Ramnad, the Anthropology museum at Poondi near Athirapakkam finds etc. These are places, which attract sizeable tourist traffic. The displays in these museums are being upgraded by having cross pollination of ideas with the staff of Chennai museum serving on committees constituted to upgrade the site museums. Hi-tech showcases have been installed at Gangaikondacholapuram museum and luminous slidescreen displays are planned at Poondi.

RENEWAL AND RENOVATION

Campus improvement at Egmore, Chennai

The plan for improvement of the campus has already been discussed in the paper on Museum Management (Kannan Dr. R., 2001). This plan is being put into implementation. Luxury toilets to be maintained by an NGO, Landscaping and renovating the heritage compound wall, a Curio shop and Canteen to be run by the Crafts Council of India are some of these initiatives. The heritage portion of the compound wall will be renovated and rebuilt by the Conservation wing of the State Archaeology Department. The red sandstone used in the 19th Century wall was identified during our last visit to the Museum of Man, Bhopal. The Director and the contractor contacted the Professor of Geology, Lucknow University who alone could identify it as Andhra stone found near Chennai and not Jaipur stone as everyone believed. Real research involves such serendipity.

Renovation of the heritage buildings like the Pantheon Buildings and National Art Gallery by using the expertise of the Archaeological Survey of India and hiring retired ex-ASI personnel recommended by them is also being executed. The budget is a whopping Rs.4 crores.

Amaravathi Gallery Reorganisation

Some of the Amaravathi limestone sculptures, which are below hip level, have been undergoing deterioration at the base for the past decade and more due to osmosis. They were embedded in the walls 130 years ago. Recently, it has been decided to remove and redisplay them according to modern standards. The equipment suited for this has been decided after the International Seminar on Conservation of Stone Objects conducted by our department and also the joint IIT-Max Mueller Bhavan seminar. Several international and national experts visited the gallery and concurred with our approach. Test removal of three pieces has been completed. The work is being done by the Conservation wing of the Archaeology Department. Synergy envisaged in theory is working out in practice

USE OF INFORMATION TECHNOLOGY

Web Site

The Honourable Minister for Education, Government of Tamilnadu, inaugurated our Web site on 18-12-2001. The Optical Carrier Band – III (OCB-3) Server based in USA is one of the fastest in the world. It contains 1400 pages of A-4 size corresponding to 122 Megabytes of electronic size. There are 52 files less than 250 Kilobytes, 15 files between 250-300 KB and 118 files of size greater than 200 KB, the total number of files being 185 files in HTML format. In addition there are VRML files for the Virtual Tour of the Bronze Gallery, Slide Show and Video Clips. The Clips have been provided in two bandwidths – low for Indian viewers with ordinary telephone line connections of usually 33 KBPS capacity though the modems are usually 56 KBPS and high for ISDN Indian viewers and foreign viewers whose bandwidth goes up to 2 MBPS and more. It is one of the largest museum web sites in the world. The Commissioner and Curators worked till 8 to 9 P.M. daily for a year to provide matter and photographs for their sections.

Publications

We have been very famous for our publications, many of which are more than 130 years old. Many of the publications in course of time went out of print. Worse we did not have a list of

our own previous publications. Many of our titles have been reprinted without even an intimation by Associated Educational Publishers, after expiry of the Copyright period. We accessed the list of our old publications from the British Library web site, local sources etc and have brought out a comprehensive list on the Web site. Therefore, tightening of systems is a positive fall out of the use of electronic systems. But a word of caution is that this depends on the uncompromising commitment of Top Management to quality. Any organisation like an army is led from the top. Good staff is no doubt a great asset, but the best army with poor generals fails as history has taught us. More than 250 publications are included in this list. Steps have been taken to reprint the publications, which are out of stock. This year we have republished old books, brought out new world class brochures on the museum as a whole, the paintings gallery, the children's museum, the conservation gallery and the new Rock and Cave Art gallery at a cost of Rs.10 lakhs. Two brochures were privately sponsored.

Electronic Documentation of the AA & A Grade Objects

The software supplied by the National Informatics Centre as part of the Central government project has enabled systematic photography and entry of the information on the important among the more than 80,000 artefacts in the Chennai museum. It also enables quick access and retrieval of the data of the computerised Accession Register. The AA grade objects are about 2% while the A grade are about 5-7% of the total number of objects. The software we find has problems in accommodating the large number of Collection sections, which our multi-disciplinary museum has.

Digital photography and storing of palm leaf manuscripts on electronic media

After the Oriental Manuscripts Library came under the control of the Commissioner, it was found that the palm leaf manuscripts were being deciphered using age old manual methods. This resulted in coverage of only a few manuscripts every year. The manuscripts deteriorate, since despite the best preservation, everything in this world deteriorates. Digital photography of the manuscripts using the camera in the Chennai museum and their

conversion into CDs has started. This will also ensure that the 'original' writing is available to scholars. This methodology is proposed to be extended to inscriptions doing away with the conventional method of taking estampages, which sometimes damages some key letters in the inscriptions. This will also avoid the problem of storing the esptampage paper without deterioration. Limited resources are enough to cover a large number of manuscripts and inscriptions. C-DAC, Bangalore has also been contacted to scan the manuscripts using huge overhead scanners, store and sell them as CDs. This methodology has been extended to the manuscripts in the Chennai museum. This is another example of synergy at work. This change is not the usual incremental dose but a clean break with the past. The pace of change was blitzkrieg.

Intercom

Communication among galleries was a major problem. Therefore, an intercom system has been installed.

Electronic Surveillance and Control Room for Galleries

The Chennai museum relies on gallery guards for its security. This method cannot cope with the security problems of the 21st Century. A central control room operating electronic video camera surveillance units linked to a computer has been proposed and is likely to be sanctioned soon. Rs.80 Lakhs has been sanctioned by the Government for this purpose.

Conclusion

In this paper, we have seen how the concept of museums has changed from passive collection and preservation of antiquities to aggressive wooing of visitor traffic. This involves new approaches to museum design, display, outreach and other activities of museums. The rapid rate of technological change has also resulted in fast obsolescence of their design and display techniques. The accent is on interactive display to sustain visitor interest. Information Technology has brought the museum to the living room through the Web. They have had an impact on all aspects of museums. Museums were mostly funded by government. There has been a big change to self generation of funds in USA and Europe. This change has also started affecting India. Museums have to fund the increased cost of new displays

and changing the old displays frequently. All this change has to be managed smoothly if they are not to be swept away.

Professionalism is usually equated with Normal Professionalism, which tries to replicate the past. The adoption of the Participatory Approach (PRA) in the Department of Archaeology and Museums of the Government of Tamilnadu has enabled everyone to involve in the management of the process of change. Participation has alleviated the anxiety factor to a large extent. This has reduced resistance to the minimum. Sharing of information is minimum in the Normal Professions. The Committee Approach has ensured sharing of information, transparency and that everyone is on board. The changes are owned by the people involved in the change. This feeling of ownership is unique to the Participatory Approach. The basic philosophy of spreading resources thin, accepting quantity for quality, creating staff positions and recruiting without adequate resources to perform the job for which the position was created, tight control over physical activity like making staff write diaries which itself consumed valuable time are all characteristic of the old approach. This resulted in accepting Second – Best as the optimum solution. The new philosophy is to have fewer staff backed by large resources, freedom to function but accountability to pre-set organisational objectives. All participate but the Top-Down part of Top Management remains to ensure that the overall organisation plan is achieved and individual components mesh and merge into this over all vision. The real revolution is Mental as F.W.Taylor, the father of scientific management called it 80 years ago or Attitude Change as Chambers refers to it now among the museum personnel.

The physical manifestations of the change are seen in all the facets of the working of the department. Adoption of a Mission Statement, a long term policy plan, short term plans dovetailing into the long term vision, use of hi-tech technology in lighting, storage, design and display of artefacts, creation of web site, electronic documentation of artefacts, palm leaf manuscripts etc are the more visible elements. The size of the annual plan of Rs.62 lakhs in 2001-2002 and the outlay under the Finance Commission grant of Rs.4 Crores show the huge inflow of

resources. More important these resources have been constructively absorbed. Internal resource generation has also increased dramatically.

There is nothing static, even change itself changes. We strive to manage it so that we are not overtaken and made irrelevant but continue to have our place under the sun. That process never ends. As Lord Tennyson writes in Ulysses, 'To strive, to seek, and not to yield till we succeed' is our motto. We cannot rest ever.

'The woods are lovely, dark and deep,

But we have miles to go before we sleep' – Robert Frost.

(I acknowledge the help of the Curator for Design and Display Shri J.R.Asokan, the boatswain of our boat in this voyage on the sea of change)

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CANNONS OF PUDUKOTTAI AND TYAGA DURG (NEAR KALLAKURICHI)

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Introduction

In the book Documentation on the Cannons in the Government Museum, Chennai (Madras) published as a Bulletin of the Government Museum, Chennai this writer has documented the cannons in the collection of the museum and also those on loan. The book appears to be the first documentation on cannons ~~exclusively~~ in the world. It appeared before the Indian Army's documentation was published (Chatterjee, S.K., 2001). The Army leaves Tamilnadu to be covered by the Chennai Museum documentation.

In the book published in 2000 (Kannan Dr.R.et.al, 2000), in the preface this writer highlighted the crucial role of cannons in winning battles and turning the tide of history. The book also traces the evolution of cannons from the circular bundles of iron bars tied together (reed cannons) to the cannons of the 19th Century AD, when they were made of steel and could fire at long distances. One such cannon used during the First World War, 'Big Bertha' could fire shells over a distance of even more than 50 miles. The British systematically used superior fire power as an instrument of supremacy. They permitted native rulers only to have six-pounder cannons, while they kept with themselves twelve and twenty pounder cannons. This way they could outgun and destroy native forces from a long distance with minimum damage to themselves. Their victory in the 1857 First War of Independence owed not a little to this policy (Kannan Dr. R, 2000, Preface; Masters, John, 1952, p.25).

This writer recently visited Pudukottai and saw the cannons in the Government Museum, Pudukottai. At the invitation of the erstwhile Maharani and her son, he visited the Residency Palace, where he saw very interesting British, French and Pudukottai pieces, some of which were embossed with coats of arms or had

engravings on them. This article describes in detail all these pieces. Their photographs are also presented here - after all seeing is believing. The cannon in Tyaga Durg is also interesting, since it also belongs roughly to the same period. It is also described below.

Cannons in Pudukkottai

1. Accession Number (Acc. No.) - An-C/1

Length	:	200 Cms.(Centimetres)
Girth at base	:	67 Cms.
Girth at tip	:	45 Cms.
Opening (dia)	:	10 Cms.

Accn. No. An-C/1

Bronze - Inscribed as 'Raghunatha Banam' - Brought from Pudukkottai old palace armoury.

Towards the close of the 17th Century AD, the Pudukkottai Tondaiman, erstwhile Rajah of Pudukottai, was helping the Nayak rulers of Madurai in their wars. The Tondaiman Chieftain Raghunatha Raya Tondaiman was responsible for the many victories of the Nayaks. He brought many guns and cannons as war trophies. One of the cannons was named as 'Raghunatha Banam' and given to the Tondaiman. The Tondaiman family kept

Inscription - Raghunatha Banam in *Grantha script*

Inscription - Raghunatha Banam in *Tamil script*

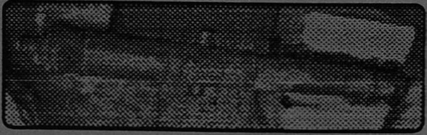
it for generations. Towards the close of the 17th century, the King of Travancore took advantage of the unsettled conditions. He stopped remitting his usual tribute to the rulers of Madurai.

Mangammal, the Queen Regent of Madurai, then sent a large army in 1698 against him. One of the distinguished leaders of this victorious army was Raghunatha Raya Tondaiman, who started the Tondaiman dynasty of Pudukkottai. He conquered a number of places and returned with bronze guns as trophies of the war. One of them is this Raghunatha Banam, evidently named after the Tondaiman (Chandrasekhar M.S., 1966, p.90). Banam in Sanskrit means arrow. The word is usually associated with Lord Rama, the incarnation of God Vishnu. The arrows of Rama were so powerful as to be able to penetrate the three worlds, i.e. this world, heaven and the nether world. The trunnions are not evenly sized, showing inexact manufacture. The cascabel is rounded as is usual in the cannons of that period.

2. Accn.No. An-C/2

Length	:	119 Cms.
Girth at base	:	47 Cms.
Girth at tip	:	29 Cms.
Opening (dia)	:	5 Cms.

This cannon is made of bronze. The coat of arms resembles that of the Dutch East India Company (VOC in Dutch). Despite contacting even the Dutch Archives, I could not get a direct deciphering of the Coat of Arms. Initially, it was thought to be the Coat of Arms of the Britsh East India Company. But I was not convinced. The medal issued by the British on the occasion of their victory over Tippu Sultan in 1794 AD gave a clue. Then the coin issued by the Dutch East India Company in 1728 AD and the historical account that Tippu bought cannons from the French and Dutch, which were seized at



Accn. No. An-C/2

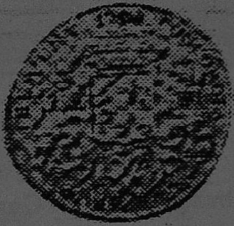
Coat of arms

where is the Coat of Arms of British East India Co?

Bronze - coat of arms likely to be that of the Dutch East India Company (VOC)

the fall of Seringapatam is another piece of information that is meaningful. I compared this coat of arms with the Dutch Coat of Arms of the House of Orange, which it closely resembles. The difference is in the centre piece which is a shield with a lion in the Dutch coat of arms while in our piece it is a globe with a cross on top. The coin states, 'Crescent Concordia' or peace concord with the Crescent i.e. Muslim powers. Therefore, it has to be concluded based on circumstantial evidence that the cannon was made by the Dutch for Tippu Sultan or Chanda Sahib. If it was for Chanda Sahib, it would have been

British Emblem



Coin with similar coat of Arms - two rampant lions

Medal issued-1794

captured by Vijaya Raghunatha Raya Tondiaman as seen in Sl.No.13 & 14 below at the Battle of Tanjore in 1758 AD. This conclusion appears more believable, because the coin was issued in 1728 AD {From Gupta, Parmeswarlal (translated by A.Kuzhandai), 1978, Sl.No.323, Plate XXX}. However, if it was Tippu cannon, it might have been secured by Vijaya Raghunatha Tondiaman, who fought with Tippu and secured it as a present.

It was brought from the old palace armoury. It has four reinforcing rings. The Marathi inscription in Modi script has been deciphered. It states 'Bhandval 4/2, Hath Vajan Maunds1¾' . 'il' has been construed as Maunds. The inscription means 'Store No.4/2, Hand weight -1¾ Maunds'. This probably indicates that the

Maratha King of Tanjore had four such pieces, this being the second piece. The cannon weighs 90 kgs. 1 Maund of Trichnopoly, Carnatic is 13.114 sers. 1 Ser for metals is 4176.7 gms (Prinsep, James & Edward Thomas, 1995, p.120). This converts accurately to the Hand weight.

3. Accn. No. = An-C/3

Length	:	147 Cms.
Girth at base	:	52 Cms.
Girth at tip	:	40 Cms.
Opening (dia)	:	8 Cms.

Acc. No. An-C/3

This is also in bronze. There is no mark or inscription. It was brought from the old palace armoury. It has four reinforcing rings.

4. Accn. No. An-C/4

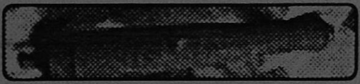
Length	:	127 Cms. with a tail rod of 35 Cms.
Girth at base	:	37 Cms.
Girth at tip	:	22 Cms.
Opening (dia)	:	4 Cms.

Accn. No. An-C/4

It is made of bronze. It is said to be a Dutch cannon, which was in use in the 17th Century AD. Instead of the usual blind base, the base is opened and a tail like rod (cascabel) is fitted into the hole. This was also brought from the old palace armoury. The trunnions are short and of even size.

5. Accn.No. An-C/5

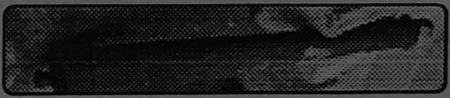
Length	:	138 Cms.
Girth at base	:	76 Cms.
Girth at tip	:	52 Cms.
Opening (dia)	:	9 Cms.



Accn. No. An-C/5

This is made of Iron. The finish is crude. It was brought from Pudukkottai Jail. It has four reinforcing rings.

6. Accn.No. An-C/6
   Length : 147 Cms.
   Girth at base : 60 Cms.
   Girth at tip : 37 Cms.
   Opening (dia) : 7 Cms.



Accn. No. An-C/6

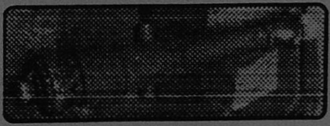
This cannon is also made of Iron. The finish is better than that of Acc. No.5. It was brought from the Brahadambal Temple, Tirugokarnam. It has four reinforcing rings.

7. Accn.No. An-C/7
   Length : 100 Cms.
   Girth at base : 46 Cms.
   Girth at tip : 27 Cms.
   Opening (diameter) : 4 Cms.

Accn. No. An-C/7

This is made of Iron. The finish is very good for an iron piece. It was brought from Tirumayam Fort. It has four reinforcing rings. The trunnions and cascabel are typical of such cannons.

8. Accn.No. An-C/8

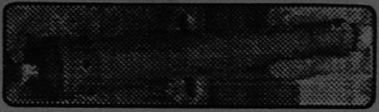


Accn. No. An-C/8

This is made again of Iron. The dimensions are the same as that of Sl. No. 7.

9. Accn.No. An-C/9 (small)
   Length : 84 Cms.
   Girth at base : 45 Cms.
   Girth at tip : 29 Cms.,Opening (dia) 4 Cms.

This cannon is made of Iron. It was brought from Tirumayam Fort. It has four reinforcing rings. The trunnions are slightly long.



Accn. No. An-C/9

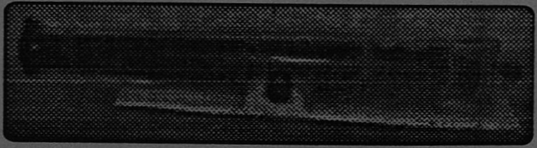
10. Accn.No. An-C/10 (small)

Accn. No. An-C/10

This is also a small iron cannon. The dimensions are similar to Sl.No. 9. It is also brought from Tirumayam Fort. It has four reinforcing rings. The cascabel is like a flat knob.

Cannons In The Residency Palace

English Cannon - 1



English Cannon - 2

Crest of the English Cannon -1

Crest of the English Cannon -2

11. In the Temple Mandapam:

Length	:	168 Cms.
Girth at base	:	78 Cms.
Girth at tip	:	47 Cms.
Opening (dia)	:	11 Cms.

This is made of bronze. It has an excellent finish. It has a coat of arms and a band with an inscription in Latin which can be deciphered as 'Year 1860'. On the knob like projection at the base, there is an inscription as follows: 'No.996, 5E3 = 20'. 996 is the serial number of the gun manufactured in the Gun Factory at Cossipore. 5E 3=20 could be the coordinates in a map of India or Bengal that might have been used by the Royal Indian Army at that time. This could have been used to easily locate where the gun was. It could also be a second set of serial numbers or model number. It is not clear whether it indicates the fire power as a Five- Pounder i.e. a gun capable of firing 5 lb. Cannon balls. It has four reinforcing rings. The trunnions and cascabel are well finished showing the high quality of manufacture.

The emblem and crest is of the crown with 'VR' for Victoria Regina (Latin). This means Queen Victoria in English. Coat of Arms on the Cannon - 'Honi Soit Qui Mal Y Pense'- Shame be to him who evil thinks' is the motto of the Order of the Garter, the initials K.G. (Knight of the Garter) are used by the recipients of the honour (Fairbairn, 1905, p.36 of Part II - Mottoes). But this is also found in the Coat of Arms of the British Sovereign, which is shown above. The name of the person 'A.Broome' appears to be the name of the Colonel of the Bengal regiment of the British Indian Army. This is borne out by the reference to Col. Broome's History of the Bengal Army in a book from the archives of Connemara Public Library, Chennai (Busted H.E., C.I.E., 1908, p.22). The book has an introductory letter by Lord Curzon, who styles himself Curzon of Kedleston. In Victorian England, it was the fashion to use Latin, the classical language as the court language and language for important work. Similarly, it was the fashion in the native states of India to use Sanskrit and Persian. There are two cannon carriages in the Government Museum, Chennai (Sl.Nos.31 & 32, Dr.Kannan R. et. al., 2000, p.10) which have the inscription 'A.Broome, Gun Foundry, Cossipore' on

them. Sl.No. 32 was taken at the fall of Seringapatam in 1799 AD from Tippu Sultan. The undercarriages and the pieces are not related. The exact time when the transposition took place whether at the time of their use in battle or after they were brought to Madras (Chennai) by the Royal Indian Army is not clear. They seem to have been received from the Superintendent, Madras Arsenal in 1894 AD. They do not seem to have been transposed in the Museum, since the Accession Register of 1934 AD (book printed on 23-8-1934) records it as the undercarriage.

~~On one ring on the cannon is inscribed 'H.H.Maxwell — 1862-Cossipore'.~~ On the other ring is inscribed 'DCCCCXCVI' i.e.996. The inscription indicates that the cannon was commissioned by Maxwell, who might have been from the Bengal Army or the Superintendent of the Gun Factory at Cossipore, near Calcutta (present Kolkata). The factory even today produces guns for the Indian Army. The year of manufacture is 1860 AD. The number of the gun is 996, since D=500, C=100, XC = 90, and VI = 6, adding we get 996. This is written on the knob in Arabic numerals. Each piece was carefully numbered and guarded. This was, as seen, above, due to the fact that these long range guns held the key to the supremacy of European arms over the native forces, which were not equipped with these weapons.

12. In the Temple Mandapam:

Length	:	168 Cms.
Girth at base	:	78 Cms.
Girth at tip	:	47 Cms.
Opening (dia)	:	11 Cms.

Bronze - with coat of arms - Year 1862 - This is similar to the piece above (Sl. No11). On the knob like projection at the base, the number 955 is inscribed along with directions as in the piece above - '5E, 3=24=12'. This could also be a similar notation as discussed above. The number is inscribed in Latin 'DCCCCLV' i.e. D-500, C-100, L-50, V-5 - i.e.955. The name of 'H.H.Maxwell, 1862, Cossipore' is inscribed. Like Broome, Maxwell must have been the Colonel of the Artillery Regiment or the chief of the Cossipore factory, the gun has been manufactured in 1862 AD. The crest is the same as in the piece above, i.e. motto and 'VR' i.e. Victoria Regina.

Coat of Arms of Le Marechal Destrèes

The two French cannons in the Residency Palace

Inscription on one of the French Cannons

13 & 14. In the Front Verandah

Length	:	164 Cms.
Girth at base	:	65 Cms.
Girth at tip	:	46 Cms.
Opening (dia)	:	10 Cms.

Bronze - placed upon a lion pillar (stone)

2 Nos. Both are similar in workmanship - year of manufacture is 1719 AD on both. Both have four reinforcing rings.

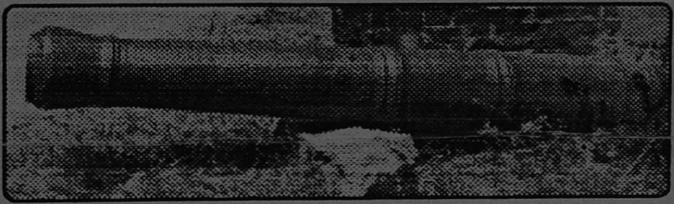
The coat of arms has ducks or more likely swans, with crosses forming an inclined grill pattern. The two lions shown are 'Lion Rampant'. This is the terminology given to the pose in heraldry. The end of the tail curves inwards but in 'Rampant Guardant', the end of the tail curves outwards as in this coat of arms (refer figures 171 & 172, Boutell, Charles, 1904, p.85). The coronet is a Duke's coronet (vide figure no.237, Boutell, Charles, 1904, p.117). upon verifying with the Alliance Française, Chennai, it is found that Le Maréchal d' Estrées is Victor Maric, Marquis de Couvres and then became Duc d' Estrées (Duke of Estrees). He was Marshal of France, i.e., the chief of the French Armed Forces in 1703 AD. He became President of the Council of Marines in

1715 AD (Encyclopaedia Grand Larousse, 1994, p.149). There were several persons from the house of Estrées, who were Marshals or played an important role in the French armed forces. **But the year of manufacture of the cannon narrows down our** search. The accents and apostrophè are missing on the inscription due to the Latin style adopted during the 17th Century AD. The cannons are numbered in Arabic numerals as 543 and 338 respectively on the projection on the right side below the coat of arms. The numbers appear to be serial numbers of the cannons manufactured in St.Hubert. The importance of these numbers in tracing the location and possessor of these big guns has been shown above. There are clasps for the hand above the trunnions. The finish of the trunnions and the cascabel show the high quality of the product.

Fecit is Latin for made i.e. the cannon was manufactured in 1719 AD. St.Hubert is a small town in present Belgium in Luxemburg. It is at the heart of the forest of Ardennes. The forest is mostly in France (Nouvelle Encyclopaedia Bordas, Vol.9, 1989, p.4915). This cannon was made in this town as the inscription indicates. 'Repris l' ane 1750' (retaken in the year 1750) indicates that it was lost in war and retaken in 1750 AD. The flower in the coat of arms is the famous 'Fleur de lis' of France. It also occurs in the coat of arms of the English sovereign because of their Norman origin and for a long time they laid claim to the throne of France.

One of the cannons from the inscription in French translated into English, 'Retaken in 1750' appears to have been lost in battle by the French between 1719 and 1750 during the Anglo-French wars in the Carnatic between 1740-1750 and retaken by them in the war of succession between Chanda Sahib and Muhammad Ali in one of the battles between the two. But both appear to have been won from the French by Vijaya Raghunatha Raya Tondaiman (1730-1769 AD) at the battle for Tanjore between Lally's forces and the Raja of Tanjore in 1758 AD. It is recorded that the French were defeated and left behind all their cannon (Venkatrama Iyer, K.R., 2002, p. 786).

Iron Cannons



Iron Cannons

15. Iron cannon

Length	:	262 Cms.
Girth at base	:	114 Cms.
Girth at top	:	89 Cms.
Opening (dia)	:	12 Cms.

16. Iron cannon

Length	:	255 Cms.
Girth at base	:	112 Cms.
Girth at tip	:	89 Cms.
Opening (dia)	:	12 Cms.

All the above cannons were kept previously in the Pudukkottai old palace armoury. All the iron cannons are locally made. They do not have serial numbers. They are crudely made. The dimensions also differ from piece to piece. This shows lack of discipline in manufacture. They are also not as powerful as the foreign made bronze cannons. This shows how superiority in fire power, manufacturing technology and discipline translated into the critical criteria for political supremacy over India.

Sl. Nos. 17 & 18.

Two Cannons at Tyaga Durg, near Kallakurichi, Villupuram District

Measurements - Not possible to measure due to inaccessibility.

This is a historic fort on the Ulundurpet-Salem Road. It is difficult of access. It is considered to have been built in 16th - 17th Centuries AD by the State Archaeology Department. It was captured by the French in 1756 AD and in 1760 AD by Hyder Ali. Later the British captured it. In 1790 AD, Tippu Sultan captured it back from the British and made it his military centre. After his defeat and death, it was permanently with the British. There are two cannons here which have fallen from the high ramparts of the fort into the rocks of the hills below. It is not possible to go near them. It has been possible to photograph only one of them. This has been done from the fort above. The cannon carries a crest of the British Crown with the inscription, which reads 'G2R', since George II was the King of Britain during the period (period of reign 1727 - 1760 AD). But 'G' is not clear. 'R' alone is clear. It stands for Rex in Latin, i.e. king in English. Only the cascabel is visible. The trunnions are not visible.

Tyaga Durg - Cannon

Cannon in Chennai Museum

In Sl.Nos.1 and 2 (Kannan Dr.R. et.al, 2000,p.10), we had written the motto as 'IE Maintiendray'. On inspection, the cannons show 'IE MAINT' and its

Inscribed - G2R

mirror version. The correct version as given in the royal emblem of Holland, the House of Orange is 'Je Maintiendrai'. The cannon in Chennai Museum (Acc.No.1946, Sl.No.29, Kannan Dr.R. et.al, 2000,p.10) has the word 'S.Lorenzo' crudely inscribed. This refers to San Lorenzo de El escorial, the famous palace and seat of King Philip II of Spain completed in 1584 AD (Spain, 1986, p.61). There is also another inscription as a paragraph, which is not so easily decipherable.

Conservation of Cannons

It is necessary to conserve cannons since the metals will deteriorate over time. It is sad to see so many historic cannons deteriorating and lying neglected all over India. This is more so in the case of iron cannons. In Chennai Museum, we are preserving the cannons for the last three years. This practice was started at the time my book (Dr.Kannan, R. et .al, 2000) was written. We have used this method recently in the site museum of the State Department of Archaeology at Tranquebar on the cannons there.

A mixture of Coconut Oil, Kerosene and white liquid Paraffin Wax is used for this purpose. The proportion of the ingredients are a secret and told to us by Shri K.T.Narasimhan, Superintending Archaeologist, ASI, Chennai Circle. He may patent the mixture. White liquid Paraffin wax is to be added to Kerosene and must be mixed thoroughly and then coconut oil is added and mixed well with the above mixture. This mixture is applied with cotton waste. First coating should be done with the mixture liberally. The second coating has to follow according to the condition of the cannon. Then, the treatment is repeated once in three months in Chennai museum. The mixture must be coated thick enough for the metal of the cannon to stabilise.

Conclusion

This article shows how the European powers gained supremacy over the numerically far superior Indian armed forces by the use of technology, better organisation and discipline. They ensured that they had cannons with long range and heavy fire-power which could crush huge native forces without coming to any harm themselves. Inscription of their emblems and coat of

arms helped in their identification. It also serves to show the importance, which they gave to the big guns (artillery). Their careful inventory control by numbering each big gun, knowing its location and in whose custody it was shows how carefully and zealously they guarded the source of supremacy. It was this superior organisation, discipline and capacity to move forces quickly over distances that ensured power projection at the right spot at the right time. In this, the British were more successful than the French. Of course, they were better masters of intrigue and intelligence gathering as well. As Rudyard Kipling would say 'they played the Great Game the best'.

It is sad to see the historic cannons being neglected and deteriorating in several places. In Chennai Museum, we preserve the cannons through our conservation methods. This helps to preserve them for posterity, which is the first duty of a museum.

'A thing of beauty is a joy for ever'- Keats.

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NEW BUDDHA SCULPTURE FROM PUDUKKOTTAI

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A new Buddha sculpture hass been discovered near Manamelgudi in Pudukkottai district. The massive fine Chola period sculpture is about 4 ½ feet height can be dated to 10th century AD.

The highly stylized sculpture of **Buddha** seated crosslegged in vajaraparyanka asana, an attitude of meditation and hands placed in dyana pose. The head is surrounded by an aureole of flames with medallion at the end(the right side is slightly damaged). The head is surmounted by a pointed **flame known as usnisa, the symbol of** gnana, while the hair is ornamented like studs. The nose, eyes, lips and other facial parts are well chiseled out. The ear lobes are elongated. A robe passes through the left shoulder.

Though Buddhism was well spread in the coastal towns of the former Thanjavur district in the medieval period, no Buddhist vestiges have been reported so far in this part of coastal belt. Ponparri(modern Ponpethi) an interior village in Avudaiyarkovil taluk alone find place in the map of Buddhism where a small Buddha idol has been found. Ponparri is the birth place of Buddhamithra the author of Virasoliyam an eleventh century work on Tamil grammar.

The Buddha sculpture has been discovered and recorded by Dr. J. Rajamohamad during his field studies on the maritime trade of this area. The carved side of the idol was buried in a paddy field for a long time, the exposed back surface was play field for urchins, when turned, found to be the sculpture. Now the idol is placed at Pudukudi village in Manamelgudi taluk. According to local tradition the site where the sculpture is found is called

"seenan thidal" the ground of Chinese. During the medieval period there was a vast trade between China and South India and Ceylon. Nagapattinam was one of the important trade center of the Chinese and there were Buddha viharas and Chinese traders visited them Manamelgudi port, south of Nagapattinam, is in the silk route, would also had been a Chinese trading center. The sculpture would be the remains of a Buddhist vihara frequented by Chinese traders and later fallen in to decay. Chinese porcelain and ancient potteries also have been collected from this site. The site is very near to the sea coast.

Pudukkottai district has a stretch of about 40 km length of coastal line which as studded with more than twelve minor ports in the 17-19th centuries and were in active maritime commerce with Ceylon and other ports of South India, as gleaned through the archival records of the European trading Companies. The excess produce form Thanjavur granary found way to far off lands through these ports. It is interesting to note that Manamelgudi port was an export point for paddy and rice through ages as attested by the inscriptions in the area and was called 'rice port' in 13th century. The finds in the site, the inscriptional and archival evidences about Manamelgudi leads us to infer that the ancient port Saliyur (as Ptolamhy calls) (Sali - paddy in Sanskrit) and Nellinur, as described in Maduraikanchi of Sangam period, could have been in Manamelgudi port region, most probably between Manamelgudi and Mimisal and these places are nearer to Thondi, the celebrated Pandya port. Dr. J. Raja Mohamad has undertaken a detailed investigation on the maritime trade history of the region and further findings may throw new light on the history of Tamilnadu.

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ASPECTS OF STUPA

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The word 'stupa' derived from the Sanskrit root 'stup' to collect and means a heap or mound. It also means a monument held in veneration when it is connected with the root 'stu' to foraise. The term stupa actually designated a mount shaped structure typically containing ~~the ashes or~~ other remains or representations of a saint. Although known primarily as a Buddhist monument, the stupa and its cult may be traced to a variety of pre-Buddhist influences among them the erecting mounds over bodily relics; the cult surrounding the death and cremation of the Cakravartin (universal ruler), and various elements in the worship of deities in India. These stupas or monuments are not exclusively Buddhist. The stupa was equally important to the Jain. The early stupa sculptures from Mathura are famous Jain examples of this type of monuments that are not so different in shape and structure from those of the Buddhists of that Age. In the classical Age, the stupa provided a symbolic and ritual focus of the Buddhist cult of saints. The particular importance of the stupa in the cults of the saint derives form the fact that once ritually empowered in an important sense the stupa was the saint although by now the body was composed of mortar and bricks rather than flesh and blood. Bensiti in reference to the Buddhist stupa remarks "directly identifies the stupa with the body of the master". It has been often pointed out that in early Buddhism there are no images of the Buddha and in speaking of the early period has corrected this view. "There are no sculpted figurations of the Buddha, but there is the stupa, his mystical body. In other words although there are no early pictorial representations of the Buddha there is from the earliest times the stupa itself, understood as a monumental image of the body of the Master, the Buddha. The sculpture becomes a substitute for the ephemeral body of the dead person where his mystic being continues to exist. This identification of stupa and body of the saint is reflected in various strands of evidences. It seems according to Huien-Tsang on a certain occasion, two merchants worshipped the Buddha and he gave them some of his hair and

nail parings. When they asked how to worship these, the Buddha said, "making a square pile of his sanghati (lower robe) laid it on the ground and did the same with his uttarasanga (outer robe) and his samkachchikam (the robe which goes under the arm pit) in succession. On top of these he placed his bowl inverted and then set up his mendicant staff, thus making up the top (stupa).

In other words the identity of the stupa with the physical body if the Buddha is also seen in the iconographic tradition. in which the stupa is seen as the idealized structure of the Buddha's body. The ground where the stupa is built is understood as Vajrasana, the seat of enligHeightenment. The base of the stupa is seen as the Buddha's leg and feet, the dome as his torso, the central axis as his spinal cord and the harmika as his head. Thus according to Snodgrass, " The identification of the stupa and the Buddha Body is conveyed in iconography. In Buddhist art the stupa and the Buddha image are interchangeable." Thus the stupa functions as the symbol of enligHeightened state of Buddha and the Buddha's eternal presence is contained there, and although enshrining relics, the worshipper sees it as the eternal Buddha.

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TWO UNIQUE MEMORIAL STONES IN THE COLLECTION OF THE GOVERNMENT MUSEUM, MADURAI

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Introduction

Memorial stone is a stone in honour of one who died heroically after displaying great courage and moral integrity. It is commemorative in character. In the Tamil country we have the tradition of '*nadukal*' (a planted stone) and '*virakkal*' (Hero stone) and often they are used as synonyms mistakingly. The former often referred to in the Sangam literature and in the Silappadikaram, is more sepulchral, that is the nadukal was erected over the remains of the dead.[1] But the virakal or hero stone was erected especially to commemorate the heroic act of a person. Here the '*Memorial Stone*' we mean only the '*Hero stone*' and the '*Mastikkal*' (or Mahasatikkal) which honours the '*Sati*' that is a '*pattini*' (chaste woman) who heroically followed her dead husband, by committing '*Sati*' or suicide.

The hero cult and *pattini* cult are deep rooted in Indian tradition and they are reflected in Indian classical as well as folk literature. The memorial stones are found all over India and they present a variety in their form and plastic detail, but we also see certain uniformity in these forms.

The most common type of hero stone or memorial stone is a free standing one, bearing on one face a sculptured figure or scene with an explanatory inscription. The sculpture may be crude or highly finished or be a carving of a single person or a series of panels depicting the various stages of a story, and the inscription may be a more label or may contain an elaborate eulogy in resounding verse. Some hero stones are intimately connected with the common man but mostly they commemorate the valour of the folk heroes who died in the frequent cattle raids across the borders – either capturing or rescuing them.[2] Some hero stones were erected in honour of Royal Officers who died in royal battles.[3]

Memorial stones were not only erected for heroes but they were also erected for pet animals laid down their life, or for animals like elephants which died valiantly in a war. We have commemorative lithic records, which were erected in memory of war and pet animals and also for heroes who sacrificed their lives fighting with hounds and wild animals.

Memorial stones were also erected for servants who died or sacrificed their lives for the sake of their masters. Sculptural representations of self-sacrifice by cutting their own heads with a sword are also common in many parts of Tamilnadu especially in Dharmapuri district. In religious terms this is known as '*navakandam koduthal*' in Tamil.

Satikkal or *Mastikkal* (Sati stones) are found in larger number in Karnataka. Mostly the stone contains in bas-relief a single arm stretched upwards and attached to the pillar. The raised arm motif is the most important element in the *Masti* sculpture. There can be one arm (*ondi kal masti*), two arms (*eradu kal masti*) or three arms. Sati may be also shown as full standing figure with raised arm or arms. Often Sun and Moon symbols are depicted on these slabs.

Memorial Stone from Varshanad

The Government Museum, Madurai has a good collection of hero stones and memorial stones, mostly collected from Madurai district and the nearby districts, through the Treasure-trove Act and also from surface collection. Among them a memorial stone from Varshanad of Theni district, Tamilnadu is unique in form and sculptural details.

This memorial stone is a rectangular pillar, 8 ft. high and 2 ft. wide. From the style and sculptural details of this memorial stone, we may assign this to about 17th Century A.D. This is a six-tiered memorial stone. Relief sculptures are seen in all the tiers.

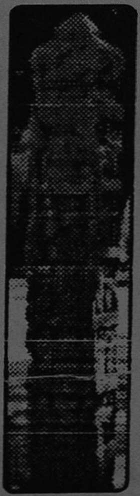
The first panel or the bottom panel shows a lady in the centre carrying a milking pot on her left hand and the right hand carries an object, which is not clear. On her left side a cow giving milk

to her calf is represented. On her right side posts meant for tying the cow are seen. This scene gives a very good picture of the life of a *Yadava* clan.

The second panel shows in its middle a woodcutter with an axe in his right hand and a staff on his left hand. Cattle are seen on his right and left sides. This panel also reflects the life of a cattle- rearing community.

The third panel shows a lady in the centre holding a mirror on her left hand and her right hand is raised but it is damaged. Her hairstyle is noteworthy. On her right and left sides a casket and a water pot are seen. A horse is seen on her left side and a man, probably a minister carrying a parasol is represented. From the horse and parasol, it is evident that the lady might be a Royal woman. Her raised hand, the presence of a relic casket and the hairstyle depict that she might have committed sati.

In the fourth panel, a hero is carrying a staff and a sword. On either side of him fighting bulls are seen. From this it is evident that the hero might have died in a bullfight. This also reveals the social life of a shepherd. Bull fighting might be his pastime event.



In the fifth panel, Krishna plays flute and on either side of him worshipping sages are seen. This might be probably the religious affiliation of the hero. Cattle are also seen on both sides of Krishna. Moon and Sun are also represented in this panel. This is to denote that the fame of the hero is everlasting.

On the sixth tier a linga is seen inside a large kudu. On one side Vyaghrapada is seen making pujas on the linga with incense and a bell.[4] A puja vessel is also seen below. A standing bull is seen on the other side. The Moon and Sun are prominently represented on this panel. The linga is the representation of the Sivaloka. It is believed that, because of his heroic deed the spirit of the hero is elevated to the heaven after his death. *Naga* motives are seen on the four corners of the top. This memorial pillar ends on the top like a stupa, which is also a commemorative motif. This memorial stone has no inscription.

From this memorial stone we can be able to establish certain facts. First of all, this pillar gives a clear picture of the social life of the yadava clan prevailed in that time. Cattle rearing, bull fighting and also skirmishes involved in relation to cattle raids, which are represented through different scenes. Their religious life, and their affiliation to both the *Saiva* as well as the Vaishnava beliefs are also evident from the representation of sculptural themes like the Krishna playing flute, the *Sivalinga* and the *Vyaghrapada*.

Memorial Stone from Thadikompu village, Dindigul district, Tamilnadu

This is also another unique memorial stone in the collection of the Government Museum, Madurai. This memorial stone is 6 ft in height and 1 ft in width and date back to about 16th Century A.D. Unlike the previous one, this memorial stone has relief sculptures on all the four sides of the pillar. From bottom to top this pillar has sculptured panels on five tiers.

In the south facing side, on all the three lower panels, man and woman are seen in anjali pose. On the fourth tier a man is riding on a bull. On the fifth tier Vishnu is represented with the *chakra* (discus) and the *sanka* (conch). Sun and Moon are also seen in the same panel. Opposite to this side, that is, on the North facing side, on the two lower panels man and woman are seen in anjali pose. In the third panel a woman carries an object on her left hand and her right hand is broken. On her right side a man is seen in anjali pose. On the fourth panel a man is holding a staff on his right hand and his left carries an object, which is not clear. He may be the deceased hero. On his left a man is seen in *anjali* pose. On the top panel a linga is seen symbolizing the *Sivaloka* or the heaven.

On the first panel of the East facing side, a dancing lady is seen with a mirror on her left hand and on her right the hero is holding swords on both the hands. On the second panel a man is holding a pot on his right hand and his left hangs down. On his right side a lady is seen. On the third panel two heroes are seen holding swords on both the hands. On the fourth panel a horseman is seen throwing a lance. On the fifth panel a man holding a staff and on his left a lady is seen. All the panels of the east facing side are representing heroes.

On the first panel of the West facing side a man is seen in anjali pose and a lady is holding something on both the hands which are not clear. On the second panel a man is holding a staff on his right hand and a lady is seen with raised hands. Her hairstyle is different from that of the other female figures in the sense, it is hanging down and waving in the air. The raised hands might be the representation of sati. On the third panel a man is seen holding a sword and carries an object on the left hand. A woman is seen with her right hand raised and her left hanging down. Here also sati is represented. On the fourth panel a man is seen with his right hand holding a sword and the left is damaged and not visible. A lady is also seen holding something on her left hand. On the last panel a horseman is represented. Most of the panels in the west facing side represent the sati.

All the sides end on the top with a kudu motif. A very interesting feature in this memorial stone is the presence of some inscription on the base of the South and North facing sides. The inscription is in Tamil.

On the South facing side it reads like this: . . . .da chethava
thu kudi. The first line denotes "for the deceased hero(s)" and the second line may denote the name of their village or the group they belong to.

On the North facing side it reads like this: . . . . .venka. . . .il
This may denote the name of the deceased hero(s). 5

In this memorial stone, the heroes are represented with swords in their hands and the sati or the death of their wives is represented in the form of the raised hands. Their religious faith is also visible from the representation of Vishnu with conch and discus and also the representation of Siva linga, which denotes the final abode of the spirit of the hero that is the heaven because of his valiant death for a noble cause.

Conclusion

This type of multi-tiered memorial stone is not common in the Pandya or the Chola periods. These types of memorial pillars are only emerged during the Vijayanagar and Nayak periods. The multi-tiered memorial stones were erected both for the heroes as well as for the *Sati*. They are very common in Karnataka and Maharashtra States. The present theme of the memorial stones

might have been an influence from these areas. Any how, these memorial stones reveal the social and cultural life of a group of people lived during the time of the Nayak period in the part of Tamilnadu.

Footnotes:

1. Tolkappiam: Puram 5 (It speaks of the six features of the nadukal: Katchi, Kalkol, ...Kallodu punara etc.),

2. Puram: 260, 279

3. Kural: 771, Akam: 131,387,67; Malaipadukadam Lines: 386 –389

4. Vyaghrapada is the other great sage, a devotee of Nataraja, along with Patanjali (incarnation of Adisesha). According to legend he married the sister of VasisHeightha and had a son Upamanyu, to feed whom with milk, he had not the wherewithal, when the Lord in his mercy made an ocean of milk available to the child. This Vyaghrapada was such a great devotee of Siva that he had not the patience to gather slowly Bilva leaves, avoiding thorns as he plucked them. At his request Siva endowed him with the feet of tiger so that he would not experience the prick of thorns as he gathered the spouts for worship. Purananuru: 264. Here the name of the dead was inscribed on the stone.

5. Purananuru: 264. Here the name of the dead was inscribed on the stone.

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KODUMBALUR MUVARKOIL – A NEW LOOK

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Kodumbalur Muvarkoil is famous both for its Architecture and Sculptural features and Epigraphical importance. Based mainly on the information containing in the inscription of Bhuti Vikramakesari[1], scholars attribute the date for this temple, covering almost 300 years, ranging from 670 A.D. by Father Heras[2] to the second half of the 10th Century by Nilakantasastri[3] and S.R.Balasubramanyam.[4]

Since the aim of this article is to give a probable new meaning for the 20th line of the inscription, we are not going to analyse the theories of various scholars regarding the date of the temple. Among them the date of closing years of 9th Century advocated by K.S. Krishnan, K.V. Subramanya Iyear, K.S. Vadiyenathan,[5] K.V. Soundararajan[6] and R. Nagasamy[7], and the identification of Bhuti Vikrama Kesari with Maravan Pudi alias Tennavan Ilango of Kilur inscription are acceptable.

The inscription is engraved on the southern wall of the Central shrine of Muvarkoil. The beginning of the inscription is mutilated. The undamaged portion runs to twenty-four lines, comprising eleven full slokas (stanzas) in different metres, the language is Sanskrit and the scripts Pallava Grantha of the type described as the "third of transitional" by Buhler[8], and ascribed by him to the 9th and 10th Centuries A.D.

It contains a geneology covering nine generations of Irukkuvel chiefs who ruled over this area, together with a record of their achievements. It further says that Vikrama Kesari raised three vimanas, one in his name and two in the names of his two wives (viz, Karrali and Varaguna). This yadava chief also gave Mallikarjuna (the ascetic chief of the Kalmukha Sect, born of the Aitreya gotra, A resident of Madurai, the master of the Veda and the pupil of Vidhyarasi) a big matha with a gift of eleven

villages for the maintenance of fifty ascetics and for various offerings to the deity of this temple.

The twentieth line of this inscription reads "Vimanath rayam uthapya pratistapya maheswaram swanamna priyayonamna". The singular 'Mahesvaram Pratistapya indicates that this vimanatrayam is a single temple complex. In the last line of inscription also the temple is mentioned as a single one. Hence the vimanatraya involves a single complex of triple shrine, each shrine seemingly dedicated to an aspect of mahesa namely Agora, Vamadeva and Tatpurusa.

Bhutisvaram[9], Vikramakesavisvaram[10] and Minnamalieswaram11 were the names of these three vimanas, which we come to know from the inscriptions of Muchukundesvara Temple of Kodumbalur, Chandrasekara Temple of Tiruchendurai, Tirupparaithurai and an inscription found by Mr. Rajendran recently near Kodumbalur. None of these or other inscriptions mention the presence of any temples named after Karrali or Varaguna at Kodubalur. So it is clear that the present Muvarkoil was a single temple comple and the vimanas were named after the builder as Bhutisvaram, Vikramakesarisvaram, and Minnamalaieswaram. But the inscription mentions that the Vikramakesari had erected three vimanas (Vimanatrayam) on the names of his own and his two wives. Since the very inscription is engraved on the central shrine, which is flanked South and North by two other shrines of almost identical in appearance, all the scholars who studied this temple and its inscription, without giving a second thought assigned them to the builder and his two wives.

Muvarkoil, the triple shrine complex being a single temple according to its own inscription, and named after the builder Bhuti Vikramakesari alone, it was neither three temples nor was named after all the three personalities of its inscription. So, according to his inscription it is inferred Muvarkoil group under the names of this two wives. A striking similarity of some architectural features help us to identify them and to some extent inscriptional evidences also support this view.

Chandrasakara Temple at Tiruchendurai and Agastisvara

Temple at Kilaiyur (Melapaluvur) are the two other temples built by Bhuti Vikramakesari named after his two wives Karrali and Varaguna alias Nakkan Bhuti or Nakkan Vikramakesari.

Architectural Similarities

1. All the five (3 at Kodumbalur, Muvarkoil) are Dvitala, structural stone vimanas.

2. Upanadi stupi parayantam, the entire structures are square in plan.

3. The pilaster arrangement and the mukhabadra with kostas in the centres are same.

4. The variety of adhistana used in all vimanas called padmabanda (Upana, Mahapadma, Vritakumutaka, Kanta, and Vyakvavi) is also the same.

5. Minor floral decorations in the makara torana, pilasters and the throating among the taranga curves in the botika are also similar.

Above all the unique feature found exclusively in these three temples is the raised salas in their salahara of first stone. In the early temples, Vedikai, Kandam, (Kal) Sikaram, stupi are the four parts forming the karnakutas and salas of the salahara arrangement. Later on prastara and kanta were introduced in between the kanta (Kal) and Sikara, which complete the miniature modes of Ekatala Vimana of six parts. Now in these three temples the central salas are having six parts and the karnakutas are having four parts, hence the sales raise up to the top of prastara of the first storey. This unique feature is not found in the contemporary temples like Tirukkattalai and Muhukundesavara of Kodumbalur etc., All these common features of architectural members including the peculiar sala among them suggest that asingle hand created these three temples.

Inscriptional Supports

Chandrasekara Temple at Tiruchendurai

a) In an inscription (316 of 1903) of this temple Pudi Adichcha

Pidariyar, daugHeighter of Tennavan Ilangovelar and queen of Arikula Kesariyar, son of Koparakesari panmar alias Solapperumanadigal mentions that this (Karralipperumanadigal) temple was built by us (tam eduppitta). Since here father Bhuti Vikramakesari also claims in his Muvarkoil inscription that he had erected a temple on his wife Karrali's namc, both in father and daugHeighter would have jointly erected this temple.

b) An inscription found by the Rajamanikkanar Historical Centre recently says that Pudi Aditha Pidari donated a land, to this temple and named 'Minnamalai Vayakkal',

(according to Muvarkoil inscription minna malai is the original name of Bhudi Vikramakesari)

c) The other wife of Tennavam Ilango, Nakkan Vikramakesari also figures in an inscription of this temple (A.R. No. 306 of 1903, SII, VIII, 6II)

d) Yet another inscription of this temple refers to the pudisvarattu perumanadigal of Kodumbalur (A.R. No. 306 of 1903, SII, VIII, 602)

So all these inscriptional evidences namely,

1) The name of the deity-Karrali permanadigal.

2) The name of the donated land called 'Minnamalai Vayakal'

3) The mentioning of Tam eduppitta by their daughter Pudi Adichcha Pidari,

4) The inscription of Nakkan Vikramakesari the other wife of the Chief,

5) Mentioning of the counterpart pudisvarattu perumanadigal of Kodumbalur,

prove that this temple was erected by Budi Vikramakesari and named it after his wife, Karrali.

Agastisvara Temple at Kilaiyur

Another wife of Bhuti Vikramakesari was Varaguna, though this name was not found in any inscription relating to him other than the Muvarkoil inscription, Nakkan pudi, a name mentioned in an inscription of this temple (357 of 1924) was one of his wives, and she was also called Nakkan Vikramakesari (Tiruchendurai Temple inscription) indicates that this was the second temple built after his wife Nakkan or Varaguna. We do not know Avanikandrapa Isvara, the name of this temple has any relevance to the names Nakkan or Varaguna. We ascribe this, temple of Bhuti Vikramakesari mainly on the basis of architectural similarities.

Thus, after erecting Karralipperumandigal Temple (Chandrasekara) at Tiruchendurai and Avani Gandarapa Isvaragruham (Agastisvara) at Kilaiyur, naming them after Karrali and Varaguna (or Nakkan), the two wives of the chief, he erected the Kodumbalur triple shrine (Muvarkoil) and after his own names of Bhuti Vikramakesari and Minnamalai and engraved this portion of inscription "Vimanatrayam uttamppya pratistapya Mahesvaram Swayam namna, priyayonamna".

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FORT ST. DAVID, CUDDALORE

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Introduction

Red Fort in Delhi is very familiar to all of us. Prime Minister usually hoists National Flag on the Independence Day. Fort St. George in Chennai is known to the people of Tamil nadu , the State Secretariat is functioning here. This Fort still stands like a phoenix bird after many attacks by the French and Nawab of Carnatic.

Fort St. David is lesser known among the forts in India. It's history is not known to many people. The foundation for the British rule on the Coromandal Coast was laid only on the Fort St. David. Robert Clive served here as a representative of East India Company. This fort was the headquarters of East India Company from 1746 to 1752. It is located 4 kilometers from Cuddalore on the seashore now called the Silver Beach.

Location

Generally forts were built on the hillocks as a protection against invaders. But the Fort St. David constructed on the bank of river gadilam. Bay of Bengal is in the East. There is a stream at the North. All the four sides of this fort were surrounded by water and not very easily accessible.

The Dutch had made first settlements at Devanampattinam around early decades of 17th Century. An Englishman, Eligu Yale bought the land and started constructing the fort at 1653 AD. There after driven out the Dutch settlers to Porto-Novo,40 Kms from Devanampattinam.

Fort and its Security

Not much details are available regarding the size and architecture of the fort but this fort was many a times attacked by its invaders. Only North-west and the North-east portions of the fort are visible now.

In the years A.D.1693, 1698, 1702, 1705 and 1740 this fort

was further extended and strengthened. Robert Clive the founder of British Empire in India started his career as both military and commercial head of the East India Company. His official residence. Garden House is now the camp office of the Collector of Cuddalore district.

First Headquarters of Tamil Nadu

Fort St. David served as head quarters for the English settlement from 1746 to1752 AD. A later inscription states that

IT WAS CAPITAL OF THE ENGLISH POSSESSIONS ON THE COROMANDAL COAST FROM 1746-1752 FORTIFICATIONS DEMOLISHED BY THE FRENCH AND SITE RESTORED TO THE ENGLISH IN 1758.

In 1758 this fort was heavily damaged by the French attack and Cuddalore lost the status of being the headquarters.

Brief Sketch of the Attacks

1712AD This fort was attacked by Swaroop Singh, Ruler of Gingee (He was the father of Raja Dejsing).

1746AD

1748AD French Dupleix, Governor of Pondicherry attacked this fort for four times.

1746AD His first attack in December was failure. In the same year and same month Duplex attacked this fort once again. Now he was not successful in his attacks due to a storm at that time.

1747AD Dupleix made the third attempt.

1748AD Dupleix attempted again, an able commander Lawrence had driven out the French forces

1758AD This fort was besieged and captured by Count DeLally, a French Commander.

1760AD. English General, Sir. Eyre Coote recovered this fort from the clutches of the French.

1782AD The combined forces of Tippu and French captured this fort.

1783AD General Steward an English Commander recaptured this fort from the French.

Reasons for Abandoning Cuddalore by the British

1. Cuddalore (Fort St. David) is very near to the Pondicherry then a French settlement.
2. Whenever war was broken between France and England the colonies in Pondicherry and Cuddalore started fighting with each other.
3. France was very strong before French Revolution (1789), therefore French forces attacked Cuddalore.

Present Condition of Fort St. David

Fort St. David was seriously attacked by many forces the fort has lost its importance. On the relics and mound many buildings like Superintendent of Police camp office, residence of Port Officer, The Guest House of Parry and Company, Go down of the Medical Department and a Christian Prayer Hall were constructed. Now we can see the name "Fort St. David only on the local post office seal at Devanampattinam.

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HIBISCUS

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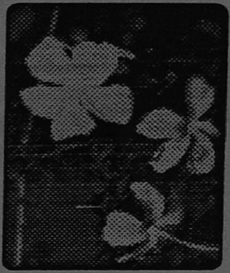
Kingdom	Plant Kingdom
Division	Spermatophyta
Class	Dicotyledonae
Series	Thalamiflorae
Order	Malvales
Family	Malvaceae
Genus	Hibiscus


Hibiscus Rosasinensis

Hibiscus is an ancient Greek name given to a mallow-like plant (Malvaceae). It is a genus, comprising species, which are mostly green house perennial plants in this country. One common species is the 'Hibiscus rosa-sinensis'. This is a shrub or small tree. The dark green leaves are glossy on the upper surface and toothed on the margins. The calyx of the large flowers is typically subtended by an epicalyx. The petals are pink, but there are many cultivated forms with carmine red or yellow flowers. The protruding stamens are very decorative; their filaments are joined to form a column, which separate only at the tip. There are also many popular double forms. Specimens with spotted leaves are common too.

The family "Malvaceae", has about eigHeighty-two genera and about 1500 species, distributed all over the earth and particularly abundant in the American tropics. It grows as herbs, shrubs or trees. Thespesia populnea, Hibiscus tiliaceous, Bombax malabaricum, Eriodendron, Adansonia etc., grows as trees. Hibiscus, Abutilon grows as shrubs. Sidha, Pavonia grows as herbs. Inflorescence is 'Cyme'. Flowers are dioecious, actinomorphic and hypogynous. The filaments are reniform and dehiscing longitudinally with the distinct pollen grains. Pistil is typically with the superior ovary. Placentation is axile and ovules are one to many in each locule. Seeds are often pubescent. The

species of Hibiscus, Malvastrum and Sida are rather widespread. A few other genera like Thespesia and Malva are represented by species adventive or naturalised from other countries. The pollen of most malvaceous plants is distinctive in that it is spiny and the grains are large. Out of the thirty genera whose species are grown a few selective species, which are grown domestically and cultivated for ornamental purposes are given below.

1. Hibiscuscannabinus:
   (English: Deccan Hemp, Tamil: Pulichaikeerai)
   Under shrubs, they grow up to 2 m tall. Leaves grow 6-10 x 5.8 cm. Flowers are yellow with purplish centre. Occasionally cultivated around houses and in fields. Flowers and fruits are found through out the year. Leaves are used as green.

2. Hibiscus hirtus:
   Under shrubs, their stems wiry. Leaves grow 4-6 x 3.4 cm. Occasionally cultivated in gardens as an ornamental plants. Flowers and fruits are found throughout the year.

3. Hibiscus lobatus:
   Herbs, they grow up to 80 cm tall. Leaves grow 3-5 x 1.3. cm. It is a weed of waste places. Fruits and flowers are found during the month of November – March.

4. Hibiscus ovalifolius
   Under shrubs, they are up to 2m tall. Leaves grow 2-5 and are ovate. Flowers are 1.5 cm across. Capsules are sub globose. It grows in thickets and scrub jungles. Fruits and flowers are found during the month of March -September.

5. Hibiscus panduriformis
   Under shrubs, they grow up to 1m tall. Leaves grow 3-6 x2.5 cm and 5 lobed, crenate-serrate. Flowers are pale yellow. It is a weed of railway tracks and other waste places. Flowers and fruits are found during the month of November – March.

6. Hibiscus. rosa-sinensis: (English: TheShoe-flower, Tamil: Chemparuthi)

Shrubs, they grow up to 5 m tall. Leaves grow 6-14 x 3.5 – 10 cm. Margin is serrate. Flowers are usually red. Commonly cultivated in gardens as ornamental plants. Flowers are found throughout the year. It is a native of China and Northern India.

7. Hibiscus sabdariffa: (English: The Roselle)
Under shrubs, they grow up to 1m tall. Leaves grow 6-9 x 5.7 cm. 3-5 lobed. Flowers are pale yellow with purplish centre. Occasionally cultivated in kitchen garden.

8. Hibiscus schizopetalus:
Shrubs, they grow up to 4 m tall; branches are pendant. Leaves grow 4-8 x 2.5 cm. These are ovate and serrate. Flowers are orange - red. Commonly cultivated in garden as ornamental plants. Flowers are found throughout the year.

9. Hibiscus surrattensis: (Tamil: Kattu pulichai)
Under shrubs, leaves grow 4-7, 3-5 lobed. Flowers are yellowish. Capsules are ovoid. Flowers and fruits are found during the month of November - April. Petals have a strong yellow dye.

10. Hibiscus tiliaceous: (Tamil: Neer paruthi)
Seen along the seashores, fairly common; cultivated as an avenue tree. Flowers and fruits are found throughout the year.

11. Hibiscus vitifolius:
Under shrubs, they grow up to 1.5 m tall. Leaves grow 4-8, the lower are 3-5 lobed and the upper are serrate. It is commonly seen as a weed along railway tracks and roadsides.

Out of these, Hibiscus rosa-sinensis belonging to Asia and Hibiscus scizopetalus from east tropical Africa are cultivated as Green house species. The former requires full sun and a light fertile soil and grows well both in the low lands and in mountain districts below 4500'. It is the most attractive of the Hibiscus with many coloured forms and hybrids. The later is the most handsome species of the genus and is often used for hedges.

Economically the family is of greatest importance for the cotton of commerce (Eg. Gossypium herbaceum, G.arboreum from Asia) obtained from the wooly coma of the seeds, and for the oil and the pulp obtained from the seeds. Hibiscus esculentus is the lady's finger, which is used as vegetable. (Hibiscus sabdariffa - Pulichakeerai) is used as green. Hibiscus cannabinus, Abutilon, Sidha and Pavonia yield fibre. Wood of Thespesia populnea (Poovarasa maram) is used for making agricultural implements and wooden articles.

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THE BATS

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Introduction

The bat is the only mammal, which can really fly. Though certain mammals like flying squirrels and flying lemurs are also adapted for flying, the bats alone exhibit true flight. As there is no evidence to show the phylogeny of bats, we do not know how did the bat attains the wings for flight? Certain features in their structures, the bats have relationship with insectivores like hedgehogs, moles, tree shrews, ground shrews, etc., It is believed that the ancestors of bats have undergone arboreal life (Tree dwelling) which were insectivores (Insect feeders). Before the bats learnt to fly, learnt to dwell in trees and to leap into the air. The primitive forms of bats were probably helped by their webbed forelimbs, and by parachute- like extensions of skin connecting body and limbs. The internal urge for the development of wings was to capture the insects for feeding. The primitive bats were insectivores. whereas the advanced group being frugivores (Fruit feeders).

System Position

Kingdom	:	Animalia
Phylum	:	Chordata
Sub phylum	:	Vertebrata
Class	:	Mammalia
Order	:	Chiroptera

This order chiroptera (In Greek, cheirs - hand; pteron = a wing) includes bats, which have the power of true flight among mammals (Groups possessing milk glands to suckle their young ones)

Characteristic Features

The forelimbs are modified into wings for flight. The wing is formed by a continuous fold of the skin, called petagium which begins from the shoulder and extends between the long fingers of fore - arm to the hind – legs and even to the tail. The first

digit. thumb is short, with a claw. The ulna is reduced, while radius is long and curved in the fore-arm. Hind limbs and pelvic girdle are poorly developed. while the pectoral girdle is strong and the sternum has a keel for the attachment of flight muscles. The external ear or prinna is large and sense of hearing is very acute. Bats possess echo- location apparatus which help them to locate objects during flight.

Eyes are small and the vision is very poor. They hang on the branches of the trees or roofs with head downwards, by clinging their hind - legs.

The order, chiroptera is further divided into 2 sub. orders. namely,

1. Micro chiroptera
2. Mega chiroptera

1. Micro chiroptera
   Regarding this, the bats are small and insectivores (Insect feeders) The molar teeth have cusped crowns ; the thumb is clawed; the tail is bounded by the inter femoral membrane; the snout is short and nose leaf is present. eg. Rhinolophus (Horse shoe bat)

   Indian vampire (Blood sucking bat: sanguivores)

2. Mega chiroptera
   In relation to this sub-order, the bats are large and fruguivorous (Fruit feeders: fruit eating bats). The molar teeth have smooth crowns with longitudinal grooves. The second digit is clawed. the tail is not bombed by the inter femoral membrane. The snout is elongated and without nose leaf.
   eg. 1. Pteropus (Flying fox).

   2 Cynopterus (short- nosed fruit eating bat).
   Structure in relation to habits

Wings

Arms and hands are the frame work of bats wings. Their developmental pattern is as that of vertebrate fore - limb. There

is the upper arm ending the elbow, the double - boned (Radius and ulna) fore - arm ending at the wrist and the hand with a thumb and four fingers. The thumb is free, the fingers are lengthened and embedded in the leathery wing membrane to support it. Like the ribs of an umbrella, they can open and close the wing and keep it taut when expanded. The flexibility of the wing is due to the jointed finger-bones. The facile movements of the joints adapt the wing to changing air currents. The flying membrane which extends to the feet and spreads between the legs is called as inter-femoral membrane enclosing the tail. Besides this membrane, there is an anti -brachial membrane, an accessory flying membrane, rising from the region of the neck, connecting with the humerus and fore-arm. Bats with long tapering wings are the swiftest fliers. eg. Sheath-tailed bats (Taphozous melanopogon). Bats with short rounded wrings are slower in flight. eg. Horse shoe bat (Rhniolophus)

Legs

Compared with the highly developed forebody and arms, the hind -quarters and legs of bats are weak. Bats do not use their legs for holding and catching the prey. The feet of bats, which having cave habitat, are usually larger enabling them to cling flattened surface better. The claws of the hind -legs are commonly used to clean and comb their fur or even as toothpicks. But the bats use their legs rarely for walking and climbing. The objective of the leg is for securing a hold after landing.

Tails

The tails of bats may be long or short or invisible to see. The tail is used as a hook when climbing, and facilitates flight.

Teeth

All bats are feeding voraciously, some bats' molar teeth have sharp cusps to their crowns; shaped some what like the letter W, these sharp pointed teeth are well adapted for holding and piercing the exoskeleton of beetles and other insects. The blood sucking bats called vampires have their teeth especially modified foe piercing the skin of animals. The teeth of fruit bats are

modified for chewing the fruits and extracting the nectar or fruit juice.

Sense

Bats are nocturnal, that is active during night. As the vision is poor, they have highly developed echo system. They are able to produce ultrasonic sounds which is inaccessible to human beings which strikes upon the obstacles and reflected back to them. This warning echoes enable and guide the bats to locate and evade the obstacles in the course of their path. The bats send their signal cries at the rate of 10/ second before take off; the rate is increased to 30 to 50/ second. This system of echo guides the bats during flight.

Hibernation

It is a phenomenon in which animals undergo dormancy to overcome extreme cold in winter. Hence it is called winter sleep. The bats living in northern countries undergo this phenomenon. During this phenomenon, the bats do not move. It requires low energy. Stored fats and glycogen are the sources of energy. Rates of respiration, metabolism, heart beat, temperature and endocrine activity are lowered.

Bats are classified on the bases of nature of food they intake. They are

1. Fruit bats
   These bats intake only fruits. The distribution of bats depends upon the fruiting seasons. When the fruiting season persists, the population of frugivorous bats (Fruit eating bats) will be abundant, when the fruiting season ceases, the fruit bats leave that place
   e.g. : Cynopterus sphinx (Fruit bat).

2. Insectivorous bats
   Rainy season is the breeding season of insects. During this season, the distribution of these bats will be more to feed upon the insects.eg. Taphozous melanopogon (Sheathtailed bat)

3. Carnivorous bats

Certain bats are blood-suckers. They pierce the skin of birds, frog and even fish and suck the blood.

e.g. Megaderma lyra (Vampire bats)

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NEO CONSERVATION

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Introduction

Conservation is the word now used frequently in various walks of life. There are various terms like conservation of energy, conservation mass, conservation of fuel, conservation of forests, conservation of soil etc. But conservation of antiquities, art, monuments, heritage etc., is now talked much, as many have understood the importance of conservation of art, cultural and natural heritage. In the present day condition, conserving antiquities is important, but where is the trained manpower to do the work? It is the duty of State and Central Governments to create awareness in conservation with the existing infrastructure of the country. The method of creating awareness in conservation is through all the possible media including competitions like quiz, elocution, essay writing, poetry writing, training, publication etc. What ever may be the media, unless the public are involved, any system will be a failure. Especially involving students from college and school is very crucial as they involve parents, teachers also. There is a proverb - If you want to teach the students, teach the teachers first. Similarly if one wants to teach children, one must teach the parents first. Involving public in conserving our art, cultural heritage is called the "Neo Conservation".

Conservation

What is conservation? Conservation is any action taken to increase the life expectancy of any art, cultural or natural object for posterity. The legacy given to us by our forefathers should be passed on to our future generation to enjoy. All indirect actions take to increase the life expectancy of an object is called the Preventive Conservation. All direct actions taken to increase the life expectancy of an object is called Interventive or Curative Conservation. Interventive or curative conservation is the job of the trained persons in conservation and conservation professionals. But, the preventive conservation is the duty of all

those who are in the country, especially those who are at the proximity of the heritage, besides those who visit the heritage.

Need for Conservation

India is rich for the art, cultural and natural heritage. No other country is as rich as that of ours. The history is also ancient and therefore the remnants of the past are also at large. If they are not taken care off, they will be deteriorated and lost forever. It is the duty of every one to take care of the priceless treasures, which our ancestors left for us. Even though, there are departments for the conservation of art, cultural and natural heritage, it is not possible to do the job of conserving the past with the available infrastructure and the financial support from the governments. Every one in the country must have awareness of conserving our past.

The Methodology

Neo Conservation is the new methodology of involving the non-professionals like students, teachers, general public and visitors to the museums, to the monuments and historical sites etc., to take part in the conservation of the art, cultural and natural heritage as a routine. This is nothing but imbibing in the minds of the public a spirit of conserving the past either through various media or training programmes inculcating an interest for conservation in the minds of those who are interested in the conservation of heritage or through publications. There is a good trend in the recent past to have knowledge of conserving the heritage. Many universities also have included this subject in post-graduate level and in the research level. The success and failure of Neo Conservation depends mainly on the following factors:

1. Choice and Planning of Projects
2. Publicity and
3. Public Involvement
4. Regular Monitoring

Planning of Projects

When any conservation project is formulated, it is very important to choose the pertinent project and plan the modalities of the project well in advance so that the project is accepted

very well. It is very important to make the administrators to understand the problem and take up the issues so that proper financial support is sought and received from government or other sources. It is always better to plan in such a way that the *conservation modalities do not have any side effect while* carrying out. There are some instances where some of the projects have lost the faith of the public as the projects have failed. In most of the cases, research was not carried out before any project is put into action.

Publicity

Publicity is another important factor of a conservation project, before it is taken off. Public and the press are keen in knowing things well in advance and if they are motivated, they come forward to take up the work. Publicity through various media like television, radio, books, pamphlets, brochures etc., are very useful for creating awareness in conservation. When projects are very successfully completed in earlier instances, *then the public, press etc., are highly motivated* and publicity is very easily achieved in conservation

Public Involvement

Involvement of the general public in the conservation of heritage is the essence of Neo Conservation. It involves acquiring the knowledge of the heritage, conservation principles, involving the public in the actual carrying out of the work. Any project with the involvement of the public will be very successful. There fore, it was thought of by me about 20 years back to involve the students' community, public in any conservation work and I was successful in any project carried out by me in the past. Even in the collection of antiquities, I mainly used the general public who were interested in the heritage conservation starting from *giving information about the loose sculptures, coins, stone* inscriptions etc., and bringing them to the museums for preserving them for posterity. They were also used in the conservation activities and exhibitions. They were taken to excavation sites, monuments and historical sites to understand our art, cultural and natural heritage.

Neo Conservation Programmes

Many conservation projects have been conducted by the

author in many a places, where the projects were actively involved by the general public and students and conservation awareness was created among the students. Students show special concern for such activities. In the beginning many opposed the principle of involving students and general public in conservation projects in Tamil Nadu. Now-a-days it is very common that all the conservation projects are linked with training programmes. These projects are very successful and the appreciation of the press is of very high order.

The Usefulness of Neo Conservation

Neo conservation plays a very important role in the conservation of art and cultural heritage. It is the time that the governments are reducing the staff strength in organizations under their control. The only possibility to promote conservation is to train people interested in conservation in the live conservation projects conducted by specialized organizations like the Archaeological Survey of India, Museums etc. The other possibility is to hand over the heritage sites, cultural objects to organizations to take care of them with least expenses or maintaining them by levying entrance tickets. This is possible in countries like India. The training offered by the specialized institutions are useful to the society to conserve the art and cultural heritage. In Melbourne, Australia I have seen the Chinese Tower, which is covered by a larger commercial complex. This has two- fold profit. One is protection of the monument and the other is bringing revenue.

Regular Monitoring

Monitoring is one of the important aspects of good conservation work for the success of any project. But especially in the case of Neo Conservation, monitoring creates a motivation for the people involved in the project. Neo Conservation will be a failure with out proper monitoring. If new avenues are created, Neo Conservation will take a fresh dimension in conserving the art and cultural heritage.

Conclusion

Neo Conservation is a growing field, which has got importance as many organizations are interested in conserving

the cultural monuments in their locality. People have come forward to conserve structural monuments and the art and cultural objects in them for posterity by their involvement directly. All such conservation projects may not be taken up by government as these involve a huge amount of money. How ever, the Neo Conservation will be able to sustain because some non governmental organizations and the government departments are interested to conserve the art and cultural heritage for posterity.